Town of Dumfries, Virginia

MS4 Program Plan

Updated: December 2023

Reporting Period: November 1, 2023 – October 31, 2028,

Permit Number: VAR040117 in compliance with the General Permit of Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) Program

MS4 Program Plan

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ACRONYMS & ABBREVIATIONS

Bay Chesapeake Bay

BMP Best management Practice

TOD Town of Dumfries

CWA Clean Water Act

DEQ Virginia Department of Environmental Quality

DPW Town of Dumfries Department of Public Works

EMA Easement and Maintenance Agreement

EPA United States Environmental Protection Agency

GIS Geographic information systems

HHW Household Hazardous Wastes

HUC Hydrologic unit code

IDDE Illicit discharge detection and elimination

MS4 Municipal separate storm sewer system

SWMF Stormwater Management Facility

SWPPP Stormwater Pollution Prevention Plan

TMDL Total maximum daily load

VPDES Virginia Pollution Discharge & Elimination System Permit

VSMP Virginia Stormwater Management Program

INTRODUCTION

The Town of Dumfries is an incorporated town located in Northern Virginia and is surrounded by Prince William County. The Town comprises approximately 1.6 square miles of urban mixed-use land development located approximately 25 miles south of Washington, D.C. All of the Town's 1.6 square miles drains to a Municipal Separate Storm Sewer System (MS4). A *municipal separate storm sewer* means "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:

- 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;
- Designed or used for collecting or conveying stormwater;
- That is not a combined sewer; and
- That is not part of a publicly owned treatment Works.

The US Census in 2020 determined the Town's population to be 5,679, that the Town is within an Urbanized Area, and thus subject to the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, which became effective October 1, 2018, and will expire on June 30, 2023, when a new permit cycle is expected to become effective. As required by the MS4 permit, this report addresses items of the Town of Dumfries MS4 Program pertinent to the Virginia General Permit for Discharges from Small Municipal Storm Sewer Systems.

The MS4 permit requires the Town to develop an MS4 Program Plan (this document). Modifications to the MS4 Program Plan are expected throughout the life of the permit as part of the iterative process to reduce pollutant loadings and to protect water quality.

The following MS4 Program Plan is a management tool developed by staff for the Town of Dumfries to comply with the six minimum control measures of the MS4 permit. The only enforceable requirements are those included in the VPDES permit. Section MCM 1 through Section MCM 6 describe the Town of Dumfries's plan to comply with the corresponding minimum control measures (MCM) listed below:

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping for Municipal Operations

Rolls and Responsibilities

The Town of Dumfries's Public Works Department coordinates the Town's municipal separate storm sewer system (MS4) program within the Stormwater Utility. The Stormwater Utility manages the MS4 permit, operations, and maintenance of the MS4 storm sewer system, onsite active construction & permitting, post-construction BMP inspection, and the illicit discharge program. The Director of Public Works oversees the Stormwater Utility and is responsible for providing the appropriate certification for documents.

The Town is a Manager- Council form of government with the Town Manager having the highest signatory authority for the Town. There are seven at-large council members. The Public Works Department and all DPW staff report directly to the Town Manager.

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Name:	Tangela Innis
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Title:	Deputy Director of Public Works
Name:	Raya Nickerson
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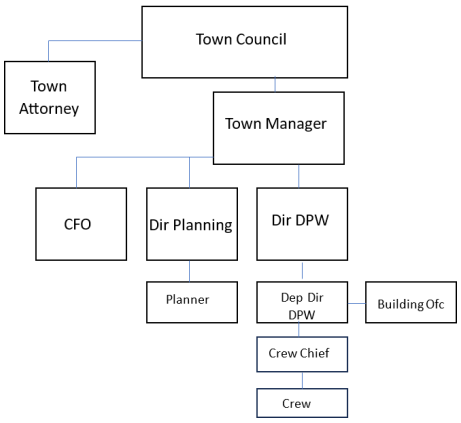
The staff responsible for conducting most of the activities in the Program Plan are the Director and Deputy Director of Public Works.

The Town Organizational Chart is as follows:

Figure 1



All policies and procedures, measurable goals, and implementation schedules, if applicable, are provided for each MCM in their corresponding section or in an associated appendix.

The Program Plan will be evaluated for appropriateness and updated annually as necessary. The objective of this Program Plan is to provide the framework for the Town of Dumfries to continually evaluate the effectiveness of the stormwater management program in reducing nonpoint source pollution from MS4 regulated areas during the permit term.

Annual reports summarizing the collective efforts and program changes from the previous reporting year will be submitted to the Department of Environmental Quality (DEQ) by March 31 of each year.

All documents and codes incorporated by reference in this Plan are presented in Table 1, below:

Table 1 – Referenced Documents

Document Title	Date	Available Location
Town Website	June, 2023	Town of Dumfries
Clean Water Act	November 27, 2002	EPA Clean Water Act
Erosion and Sediment Control Code	February 7, 2019	Town E & S Code
VA Stormwater Program	July 17, 2017	VA Stormwater Program Regulations
VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems	November 1, 2023	VPDES Permit for the Town of Dumfries
Town of Dumfries Local TMDL Action Plan	May 29, 2020	Local Action Plan
Town of Dumfries Chesapeake Bay TMDL Action Plan Phase I & II	April 4, 2016	CBPA Action Plan Phase I & II
MS4 Outfall Map and Attribute Information Table	June 2023	Outfall Map & Information Table
VA Stormwater BMP Clearinghouse	July, 2023	VA BMP Stormwater Clearinghouse
APPENDIX A		TOD MS4 Drainage Area Map & Attribute Information Table
APPENDIX B		TOD Standard Operating Procedures for Illicit Discharge Detection and Elimination
APPENDIX C		TOD Erosion & Sediment Control Inspection Check List
APPENDIX D		TOD Environmental Checklist
APPENDIX E		TOD E & S Stormwater Pollution Prevention Manual
APPENDIX F		TOD Program Approval Letters

APPENDIX G		TOD E & S Enforcement Procedures
APPENDIX H		Post Construction BMP Checklists
APPENDIX I		TOD Stormwater Utility Maintenance Agreement
APPENDIX J		TOD Stormwater Control Measure Database
APPENDIX K		TOD Pollution Prevention & Good Housekeeping SOP Procedures

Unless otherwise noted, the majority of the documents above can be viewed at the TOD's Stormwater Utility webpage:
https://library.municode.com/va/dumfries/codes/code_of_ordinances?nodeId=PTIICOOR_CH26EN_ARTVSTMA

Note: Policies and procedures are internal documents intended to provide program plan implementation guidance to staff. As the VPDES permit requires establishment of policies and procedures for various program components but does not dictate the details of the policies and procedures, the Town of Dumfries reserves the right to update and revise any internal policies and procedures at any time and in any manner.

Third Party Written Agreements

The Town of Dumfries does not have any written agreements with any other local or state entity, or NGO to perform or complete any part of the MS4 program for the Town.

While Town is a member of The Northern Virginia Clean Water Partners (NVCWP), it is composed of a group of local governments, drinking water and sanitation authorities, and businesses that share the common goals. We are voluntary members of this group and share resources but do not rely solely on this group to provide outreach or education of the Town and have no agreements in place. The Town mostly relies on internal staff to develop websites, handouts, and other materials for outreach. MINIMUM CONTROL MEASURES

MCM 1 - Public Education and Outreach

Permit Requirements (Part IV.E.1.f)

The Public Education and Outreach Plan shall include:

1. A list of the high-priority stormwater issues the permittee will communicate to the public as part of the public education and outreach program.
2. The rationale for selection of each high-priority stormwater issue and an explanationof how each education or outreach strategy is intended to have a positive impact on stormwater discharges.
3. Identification of the public audience to receive each high-priority stormwater message.
4. The strategies from Table 1 of Part IV.E.1.d to be used to communicate each high- priority stormwater message.
5. The anticipated time periods the messages will be communicated or made available tothe public.

Responsible Parties

Department of Public Works (DPW)

- Deputy Director

- Director

Outreach Program Description

The Town of Dumfries has developed a public education and outreach program designed to:

- Increase the public's knowledge of how to reduce stormwater pollution and how citizens can connect their actions to cleaner water while placing a priority on reducing impacts to impaired waters and other local water pollution concerns,
- Increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications, and
- Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.

High Priority Stormwater Issues

The TOD has chosen three high-priority stormwater issues to meet the overarching goal of educating the public in accordance with the program priorities stated above, as presented in Table 2.

Table 2 – Public Education and Outreach Plan

High Priority Issue	Pet Waste	Illicit Discharges and Illegal Dumping	Litter Awareness
Rationale for Selection	The goal of the program is to minimize the degree of pet waste runoff to reduce the bacteria loads entering the Town's local waterways.	The goal of the program is to educate business and homeowners about proper disposal chemicals and how to properly dispose of grease, oils, to lessen the impacts and runoff to local water ways.	The goal of the program is to minimize the degree of litter entering the storm-sewer system and local waterways to achieve higher water quality.
Identification of Public Audience	Pet owners	Businesses and residents	Businesses and residents
Strategies Utilized from Table 1	Traditional written materials, Media materials, Signage, Speaking engagements	Traditional written materials, Social media; Speaking engagements	Traditional written materials, Speaking Engagements, Social , media; Media Materials

Importance for Selecting High Priority Stormwater Issue	Pet waste is a large contributor to the high bacteria count found in many local streams. Pet owners need to be aware pet waste runoff impacts the health of our streams. More education about high bacteria counts from pet waste will reduce the amount of bacterial local waterways.	Improper discharges from auto repair shops can result in the release of oil and grease, antifreeze, paints, and other hazardous solvents into nearby waterways. The reduction of chemicals and toxic substances results in cleaner waterways. Restaurants dispose of many types of oils, fat solids, and grease. Dumping of these products into dumpsters or yard drains can cause contaminates to runoff into nearby creeks.	When individuals choose to litter, they may not realize the full impact of their actions. By educating pedestrians about the impact of litter waste, residents will be encouraged to be more responsible with how they dispose of their waste.
Materials Used	Pet waste bags, signage, social media.	Newsletters, public events, and social media.	Local newsletters, signs, storm drain marker installations.

BMP/Strategy Implementation

High Priority 1. - Pet Waste Priority

BMP 1a. – Traditional written materials

Schedule

The Town will annually publish one (1) article in the Town's newsletter about pet waste and its effect on our waterways.

Responsible Parties

Department of Public Works (DPW)

- Deputy Director
- Director

Measurement of effectiveness

The Town will track and document the number of newsletters distributed to its citizenry.

BMP 1b – Public Speaking Engagements

Schedule

The Town will participate in a minimum of two (2) public events to discuss the importance of picking up pet waste. During these events, the Town will also distribute Pick Up the Poop signs to reach out beyond the public event attendees. Public events include but are not limited to:

- Local church events
- Dumfries Senior Luncheons
- Dumfries Fall Festival
- Dumfries Farmer's Market

Responsible Parties

Department of Public Works (DPW)

- Deputy Director
- Director

Measurement of effectiveness

The Town will measure its effectiveness by tracking the following information:

- The number of public speaking engagements in which the Town participated.
- The number of Pick up the Poop signs handed out or posted at the speaking events.

BMP 1c – Alternative Materials

Schedule

The Town will maintain the pet waste stations in parks and public areas and give away alternative items such as poop bags and hand sanitizer with water quality messages at the Town Hall and in conjunction with the Community Events identified in BMP 1b.

Responsible Parties

Department of Public Works (DPW)

- Deputy Director
- Director

Measurement of effectiveness

The Town will measure its effectiveness by tracking the following information:

- The number of alternative items distributed during public events.

BMP1d – Electronic Media

The Town will maintain an electronic media campaign regarding the importance of proper pet waste disposal by including a webpage dedicated to pet waste and its harm to the environment. The webpage can be accessed at https://www.dumfriesva.gov/government/departments/public_works/pet_waste_campaign.php

High Priority 2. Illicit Discharges and Illegal Dumping

The Town will implement the following BMPs/strategies to address illicit discharges and illegal dumping.

BMP 2a – Traditional Written Materials

Schedule

The Town will

- Distribute literature to restaurants and automotive businesses about the proper disposal of paints, cleaning chemicals, fats, grease, oils and chemicals and how to report illegal dumping a minimum of once a year.
- Annually publish two (2) articles in the Town newsletter about stormwater and illicit discharge information.

Responsible Parties

Department of Public Works (DPW)

- Deputy Director
- Director

Measurement of effectiveness

The Town will measure its effectiveness by tracking the following information:

- Number of newsletters sent.
- Number of shops reached and the types of literature distributed.

BMP 2b – Social Media

Schedule

The Town will post four (4) messages on the Town's social media platforms about different types of illicit discharge e.g.: oil, paints and grease and the highlights about stormwater awareness.

Responsible Parties

Department of Public Works (DPW)

- Deputy Director
- Director

Measurement of effectiveness

The Town will measure its effectiveness by tracking the following information:

- The number of social media posts

High Priority 3 - Litter Awareness

The Town will implement the following BMPs/strategies to address illicit discharges and illegal dumping.

BMP 3a – Traditional Written Materials

Schedule

- The Town will publish one (1) article in the Town newsletter about litter and recycling.

Responsible Parties

Department of Public Works (DPW)

- Deputy Director
- Director

Measurement of effectiveness

The Town will measure its effectiveness by tracking the following information:

- Number of newsletters sent.

BMP 3b – Social Media

Schedule

The Town will annually post a minimum of four (4) social media posts regarding the importance of pollution prevention, measures to prevent pollution, and keeping waterways clean.

Responsible Parties

Department of Public Works (DPW)

- Deputy Director
- Director

Measurement of effectiveness

The Town will measure its effectiveness by tracking the following information:

- The number of social media posts

BMP 3c – Speaking Engagements

Schedule

The Town will participate in a minimum of two (2) public events to discuss the importance of litter awareness. During these events, the Town will also distribute reusable bags and water bottles. Public events include but are not limited to:

- Local church events

- Dumfries Senior Luncheons
- Dumfries Fall Festival
- Dumfries Farmer's Market

Responsible Parties

Department of Public Works (DPW)
- Deputy Director
- Director

Measurement of effectiveness

The Town will measure its effectiveness by tracking the following information:
- The number of public speaking engagements in which the Town participated.
- The number of reusable bags and water bottles handed out at the speaking events.

Additional Information and Contacts

Additional information on the Town's Public Education and Outreach program and contact information can be found on the Town's Stormwater Utility Webpage located here http://www.dumfriesva.gov/governmentpublic- worksmunicipal-separate-storm-sewer-system-ms4/

MCM 2 - Public Involvement and Participation

Permit Requirements (Part IV.E.2.e)

The Program Plan shall include:
- The webpage address where mechanisms for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns.
- The webpage address that contains the methods for how the public can provide input on the permittee's MS4 program.
- The permittee shall implement no less than four activities per year from two or more of the categories listed in Table 2 [of the MS4 General Permit] to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.
- A description of the public involvement activities to be implemented by the permittee, the anticipated time period the activities will occur, and a metric for each activity to determine if the activity is beneficial to water quality. An example of metrics may include the weight of trash collected from a stream cleanup, the number of participants in a hazardous waste collection event, etc.

Responsible Parties

Department of Public Works (DPW)
- Deputy Director
- Director

Program Description

The TOD maintains an MS4 webpage that hosts the TOD's effective MS4 permit and coverage letter, the current MS4 Program Plan, the Chesapeake Bay and local TMDL Action Plans, and previous MS4 Annual Report. This webpage can be accessed at http://www.dumfriesva.gov/governmentpublic-worksmunicipal-separate-storm-sewer-system-ms4/

The town's webpage provides a phone number (703-221-3400 x117) to call with comments on the MS4

Program, and an email (ms4@dumfriesva.gov) where the public can report potential illicit discharges, improper disposal, spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater concerns. The TOD maintains electronic records of all input or complaints received on the MS4 Program Plan, as well as Town responses.

Procedures for Tracking Complaints, Reports and MS4 Program Plan Comments

The following procedures will be followed for receiving and responding to complaints, reports, and the MS4 Program Plan.

Stormwater Complaints and Reports

DPW staff manually track comments using the following process:

1. Stormwater complaints and reports are received via the internet link, phone or email.
2. The Deputy Director of Public Works will log the information into the excel spreadsheet and include the date, name, and complaint/response. A copy of the log can be found in Appendix L.
3. Based on the information received, the appropriate staff or contractor will be assigned to investigate the complaint to see if more information or research is required to properly respond to the comment/question. It is the goal for staff to respond to the complaint/comment/question within 48 hours via email or phone if email or phone is provided. Should the response require more information, staff will respond to the comment with a timeline for a complete response.
    a. For illicit discharges and illegal dumping issues, staff will adhere to the Standard Operating Procedure for Detecting and Eliminating Non-Stormwater Discharges to the MS4.
    b. For drainage and flooding issues, staff will work with the Public Works administrative staff to determine the necessary response.
    c. For erosion and sediment control and land disturbing issues, the Deputy Director of DPW will notify the assigned inspector to investigate the complaint following the appropriate procedures.
    d. All other issues will be reviewed by the DPW administration on a case-by-case basis.
4. Staff will provide the Deputy Public Works Director the response information for documentation in the excel spreadsheet for submission with the MS4 Annual Report.

MS4 Program Plan Comments

The Town's MS4 Program Plan is publicly available at https://www.dumfriesva.gov/government/departments/public_works/municipal_separate_storm_sewer_system.php. Comments received specifically regarding the MS4 Program Plan will be reviewed by DPW staff and tracked in the excel spreadsheet along with stormwater complaints and reports. Any responses to the comment, including modifications to the MS4 Program Plan will be noted in the Excel spreadsheet and reported as part of the MS4 Annual Report.

Public Involvement Opportunities

The TOD will promote/participate in the activities identified in Table 3. (next page)

Table 3 – TOD Public Involvement and Participation Opportunities

Public Involvement Activities	Opportunity Description	Anticipated Time Period	Metrics
Restoration Events	TOD will continue to promote/ partner in local watershed cleanup events, as sponsor and/or host.	The Town will promote / partner in at least two clean-up activities annually.	The number of individuals participating in each event
Disposal or Collection Events	Household Hazardous Waste (HHW) has been identified by the Town as a significant potential source of illicit discharge to the storm sewer system. Town residents, as residents of Prince William County, are eligible to participate in the Prince William County Landfill's HHW collection program. The landfill accepts HHW on Wednesdays and Saturdays.	The Town will promote / sponsor HHW collection efforts in coordination with the Prince William County Landfill.	The landfill does not distinguish between County and Town residents. As such, the TOD will report the number of days in which the landfill received HHW during each year.
Educational Events	The TOD will host a rain barrel painting event at the annual fall festival with two rain barrels given away to local citizens.	Annual event at Fall festival	Two rain barrels to give aways. Email collection for rain barrel give-away.

Measurable Goals

The Town's goal is an effective public involvement and participation program. The Director of Public Works will annually evaluate the effectiveness of MCM2 activities by analyzing the associated metrics tracked for each activity presented in Table 3. Should the TOD be unable to execute one of the programs specified above, an appropriate substitute program will be identified and completed as an alternative. The Director will annually evaluate the effectiveness of the Town's public participation efforts at addressing the Town's high priority issues, and will document the following in the Annual Report:

The Town will measure:

- Number of views on social media posts
- Number of attendees at clean-ups
- Number of participants in planned events
- Number of bags distributed

MCM 3 - Illicit Discharge Detection and Elimination

Permit Requirements (Part IV.E.3.d)

The Program Plan shall include:

- The MS4 map and attribute information table required by Part IV.E.3.a. The map and information table may be incorporated into the MS4 program plan by reference. The map shall be made available to the department within 14 days upon request.
- Copies of written notifications of new physical interconnections given by the permittee to other MS4s.
- The IDDE procedures described in Part IV.E.3.c.

Responsible Parties

Department of Public Works:

- Deputy Director of Public Works
- Private consultant

MS4 Outfall Map

The TOD has developed and maintains an accurate MS4 Map that includes, at a minimum, the permit requirements listed in Part IV.E.3. a.1. The TOD has also developed and maintains an information table for each outfall or point of discharge that includes the requirements listed in Part IV.E.3. a.2. The

- TOD's outfall map and information table are maintained by the DPW. A copy of the map is presented in APPENDIX A and is available upon request. Copies of written notifications of new or discovered physical interconnections given to other MS4s will be included as an appendix to the Program Plan, as developed.

Physically Interconnected MS4s

The Town is unaware of any physical interconnection to any other MS4s and has such not provided any MS4 operator of the connection.

IDDE Prohibition

The TOD prohibits unauthorized non-stormwater discharges into the storm sewer system through the Town's Stormwater Code found on the following webpage https://library.municode.com/va/dumfries/codes/code_of_ordinances?nodeId=PTIICOOR_CH26EN_ARTV IIILDIDEELPR.

Citizens can contact the Town when they suspect illicit discharges at 703-221-3400 x119 and ms4@dumfriesva.gov. This information is listed on the Town website at http://cms5.revize.com/revize/dumfriesva/government/departments/public_works/municipal_separate_storm_sewer_system.php.

IDDE SOPs

The Town has developed and implements it illicit discharge detection and elimination program in accordance with the TOD *Standard Operating Procedure for Detecting and Eliminating Non-Stormwater Discharges to the MS4, May 2020 (*APPENDIX B). The Town hires a consultant to perform outfall dry weather screening per Part IV.E.3.c. Outfalls will be prioritized for field screening by the Director of Public Works until a procedure is established in the document stated above. Dry weather discharges, if observed, are investigated in accordance with the Standard Operating Procedures. Any detections suspected of being sanitary sewage or significantly contaminated discharges shall take priority. Enforcement actions and legal penalties shall be used for incidents of illicit discharge, when necessary, by the Town. Incidents of illicit discharges, as well as the outcome of investigations and any follow-up investigations or actions will be tracked in the Town's database.

MCM 4 - Construction Site Stormwater Runoff Control

Permit Requirements (Part IV.E.4.b)

The Program Plan shall include:

- The local ordinance citations for the Virginia Erosion and Sediment Control Program (VESCP) program.
- A description of the legal authorities utilized to ensure compliance with Part IV.E.4.a to control construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, policies, and inter-jurisdictional agreements.
- Written inspection procedures to ensure the erosion and sediment controls are properly implemented and all associated documents utilized during inspection including the inspection schedule.
- Written procedures for requiring compliance through corrective action or enforcement action to the extent allowable under federal, state, or local law, regulation, ordinance, or other legal mechanisms.

- The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the construction site stormwater runoff control requirements in Part IV.E.4.

Responsible Parties

Department of Public Works:

- Deputy Director of Public Works
- Private consultant

(Refer to the VSMP Policies and Procedures Manual for a detailed breakdown of roles and responsibilities)

Program Description

The Town currently implements a program to control construction site stormwater runoff consistent with the permit requirements. The program is authorized by the Town of Dumfries Code Chapter 26 - *Environment*.

Written Procedures and Guidance

All plan reviewers and site inspectors are required to follow the processes outlined for both the Erosion & Sediment and stormwater programs using the following documents:

- TOD Erosion & Sediment Control Inspection Checklist (APPENDIX C)
- TOD Environmental Plan Review Checklist (APPENDIX D)
- TOD Virginia E & S and Stormwater Management Program Policy and Procedure Manual (APPENDIX E)

Measurable Goals

The Town will operate a VSMP consistent with the Virginia Stormwater Management Act and attendant regulations.

MCM 5 - Post Construction Stormwater Management

Permit Requirements (Part IV.E.5.h)

The Program Plan shall include:

- A copy of the VSMP approval letter issued by the department.
- Written inspection procedures and all associated documents utilized in the inspection of privately-owned stormwater management facilities.
- Written procedures for compliance and enforcement of inspection and maintenance requirements for privately owned BMPs.
- A description of the legal authorities utilized to ensure compliance with Part IV.E.5.a for post-construction stormwater runoff control such as ordinances (provide citation as appropriate), permits, orders, specific contract language, and inter-jurisdictional agreements.
- Written inspection procedures and all associated documents utilized during inspection of stormwater management facilities owned or operated by the permittee.
- The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the post-construction stormwater runoff control program.
- The stormwater management facility spreadsheet, or database incorporated by reference, and the location or link where the spreadsheet or database can be reviewed.

Responsible Parties

Department of Public Works

- Director of Public Works
- Combination Inspector

(Refer to the VSMP Policies and Procedures Manual for a detailed breakdown of roles and responsibilities)

Program Description

A copy of the Town's VSMP approval letter is presented in Appendix F and the Town's website at http://www.dumfriesva.gov/governmentpublic-worksmunicipal-separate-storm-sewer-system-ms4/. The Town currently implements a program to control post-construction site stormwater runoff consistent with the permit requirements. The program is authorized by the Town of Dumfries Code Chapter 26 Article V Division 3 – *Stormwater Management Program*.

Written Procedures and Guidance

The following procedures and guidance are applicable to the Town's VSMP.

- The TOD E & S and VSMP Stormwater Permit Policies and Procedures Manual
- General Construction Permit – VSMP Inspection Checklist *(*APPENDIX G*)*
- Post Construction BMP Inspection Checklist APPENDIX H
- *Stormwater Utility Maintenance Agreement (*APPENDIX I)

Annual inspections are performed on Town maintained BMPs. Limited maintenance is performed on each BMP while more complex task (sediment removal, etc.) will be performed by an external contractor. The Stormwater Control Measures (SCM) database can be found in Appendix J.

- The TOD will use the *DEQ Construction Stormwater Database* (https://apps.deq.virginia.gov/swcgp) or other application as specified by the Department to report each stormwater management facility installed after July 1, 2014, to address the control of post-construction runoff from land disturbing activities for which the permittee is required to obtain a *General VPDES Permit for Discharges of Stormwater for Construction Activities*.
- No later than October 1 of each year, the TOD will electronically report the stormwater management facilities and BMPs implemented between July 1 and June 30th of each year using the *DEQ BMP Warehouse* (http://apps.deq.virginia.gov/BMP) and associated reporting template for any practices not reported in accordance with Part IV.E.5.f including stormwater management facilities installed to control post- development stormwater runoff from land disturbing activities less than one acres in accordance with the Chesapeake Bay Preservation Act regulations (9VAC25-830) and for which a *General VPDES permit for Discharges of Stormwater from Construction Activities* was not required.

Measurable Goals

The Town will operate a VSMP consistent with the Virginia Stormwater Management Act and attendant regulations.

MCM 6 - Pollution Prevention and Good Housekeeping

Permit Requirements (Part IV.E.6.p)

The Program Plan shall include:

- The written procedures for the operations and maintenance activities as required by Part IV.E.6.a.
- A list of all high-priority facilities owned or operated by the permittee required in accordance with Part IV.E.6.c, and whether or not the facility has a high potential to discharge.

- A list of lands for which turf and landscape nutrient management plans are required in accordance with Part IV.E.6.i and j, including the following information:
  - The total acreage on which nutrients are applied.
  - The date of the most recently approved nutrient management plan for the property.
  - The location in which the individual turf and landscape nutrient management plan is located.
- A summary of mechanisms the permittee uses to ensure contractors working on behalf of the permittee implement the necessary good housekeeping and pollution prevention procedures, and stormwater pollution plans as appropriate.
- The written training plan as required in Part IV.E.6.m.

Responsible Parties

Department of Public Works

- Director of Public Works
- Deputy Director of Public Works

Program Description

The TOD has developed an Integrated Good Housekeeping Standard Operating Procedures (SOPs) & DPW Maintenance Shop Stormwater Pollution Prevention Plan (SWPPP), designed to minimize, or prevent illicit pollutant discharge from daily operation and maintenance activities such as: equipment maintenance, waste disposal, utility operations, bulk storage, and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers (Appendix K). Section 3.0.6. of the Integrated Good Housekeeping SOPs prohibits the use of nutrient such as urea for winter weather management.

High Priority Facilities

The Town has one high-priority facility that has a high-potential to discharge - the DPW Maintenance Shop. The HP-SWPPP for the shop has been integrated into the Integrated Good-Housekeeping SOP. The Town will implement the sections specific to the DPW Maintenance Shop as a condition of implementing the required HP-SWPPP.

Nutrient Management

The Town of Dumfries does not apply fertilizer or nutrients to any land areas of one acre or greater in size. The Integrated Good Housekeeping SOP, Section 3.0.4 requires that where any limited amounts of fertilizers are to be applied, they are to be applied in accordance with manufacturer's specifications by a licensed contractor

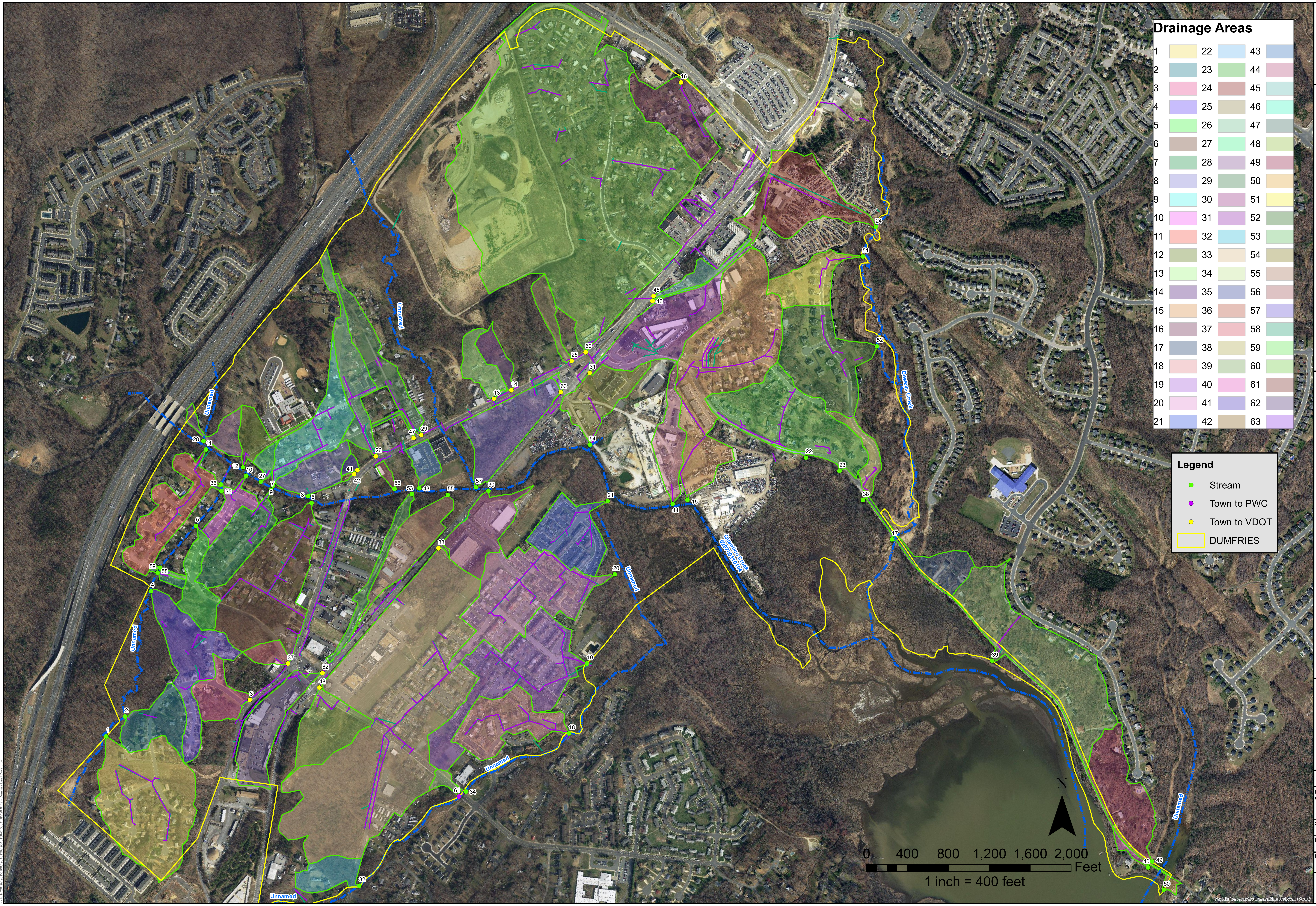
Training Plan

Because the Town has a staff of five that manages Town Operations & Maintenance, training for the DPW staff will take place once every other year between February and March, via video and class review. All staff will be required to watch the following good housekeeping videos:

- Facilities Maintenance
- Road, Street & Parking lot Maintenance
- SWPPP Facilities Maintenance

The Town's goal is to continue implementing Pollution Prevention and Good Housekeeping protocols for staff performing daily operations. The Deputy Director will annually evaluate progress toward meeting the Town's goal by ensuring maintenance of high priority facility SWPPPs, implementation of Nutrient Management Plans as needed, and by ensuring Contractors are held to the same standards as employees. The Deputy Director will annually evaluate progress toward meeting the Town's training goals by tracking training and doing random inspections within the Town maintenance shop.

APPENDIX A



Draper Aden Associates
Engineering • Surveying • Environmental Services

Town of Dumfries MS4 Service Area
November, 2015

REVISIONS

DESIGNED BY:
CEP

DRAWN BY:
CEP

CHECKED BY:
CAH

SCALE: 1" = 400'

DATE: JANUARY 17, 2020

PROJECT NUMBER:
B15147B-01

1 of 1

Outfall ID	Latitude	Longitude	SubType	Receiving Stream	HUC12	Impervious (IMP)	Pervious (P)	Forest (F)	Total Area Acres
1	38° 33' 34.439" N	77° 20' 14.971" W	Stream	Unnamed	n/a	4.72	16.34	1.26	22.32
2	38° 33' 36.332" N	77° 20' 12.617" W	Stream	Unnamed	n/a	1.38	4.02	0.72	6.12
3	38° 33' 37.783" N	77° 19' 57.240" W	Town to VDOT	Null	n/a	1.05	2.15	1.08	4.27
4	38° 33' 48.410" N	77° 20' 9.226" W	Stream	Unnamed	n/a	3.22	4.92	2.93	11.06
5	38° 33' 54.649" N	77° 20' 3.606" W	Stream	Unnamed	n/a	1.60	2.04	0.90	4.54
6	38° 33' 56.717" N	77° 19' 49.353" W	Stream	Quantico Creek	020700110104	5.87	11.55	2.86	20.27
7	38° 33' 58.042" N	77° 19' 54.305" W	Stream	Quantico Creek	020700110104	2.68	4.65	0.00	7.33
8	38° 33' 57.387" N	77° 19' 49.759" W	Stream	Quantico Creek	020700110104	1.56	3.04	0.00	4.59
9	38° 33' 58.442" N	77° 19' 54.100" W	Stream	Quantico Creek	020700110104	2.44	5.71	0.00	8.15
10	38° 33' 59.435" N	77° 19' 57.323" W	Stream	Quantico Creek	020700110104	1.42	1.35	0.00	2.78
11	38° 34' 2.021" N	77° 20' 2.248" W	Stream	Quantico Creek	020700110104	4.27	4.75	0.00	9.02
12	38° 34' 0.238" N	77° 19' 57.744" W	Stream	Quantico Creek	020700110104	0.55	2.45	0.00	3.00
13	38° 34' 6.554" N	77° 19' 26.759" W	Town to VDOT	Null	n/a	0.59	1.72	1.03	3.34
14	38° 34' 7.358" N	77° 19' 24.613" W	Town to VDOT	Null	n/a	0.19	1.18	0.89	2.26
15	38° 33' 56.578" N	77° 19' 3.105" W	Stream	Quantico Creek	020700110104	10.59	17.07	0.98	28.63
16	38° 34' 36.877" N	77° 19' 3.283" W	Stream	Quantico Creek	020700110104	2.96	6.50	0.00	9.46
17	38° 33' 52.486" N	77° 18' 38.050" W	Stream	Quantico Creek	020700110104	0.88	2.29	1.25	4.43
18	38° 33' 34.152" N	77° 19' 18.074" W	Stream	Unnamed	n/a	4.56	4.74	0.00	9.29
19	38° 33' 40.873" N	77° 19' 15.751" W	Stream	Unnamed	n/a	7.69	10.56	0.00	18.25
20	38° 33' 49.466" N	77° 19' 12.172" W	Stream	Quantico Creek	020700110104	9.08	9.42	0.00	18.50
21	38° 33' 56.533" N	77° 19' 12.923" W	Stream	Quantico Creek	020700110104	4.09	4.24	0.00	8.33
22	38° 34' 0.484" N	77° 18' 48.476" W	Stream	Quantico Creek	020700110104	0.14	0.05	0.00	0.19
23	38° 33' 59.145" N	77° 18' 44.377" W	Stream	Quantico Creek	020700110104	4.10	13.22	0.00	17.32
24	38° 34' 22.691" N	77° 18' 39.535" W	Stream	Dewey's Creek	n/a	9.25	3.94	0.00	13.19
25	38° 34' 10.127" N	77° 19' 17.150" W	Town to VDOT	Null	n/a	0.40	1.96	0.00	2.36
26	38° 34' 1.136" N	77° 19' 41.398" W	Town to VDOT	Null	n/a	2.86	4.61	0.00	7.47
27	38° 33' 58.832" N	77° 19' 55.561" W	Stream	Quantico Creek	020700110104	0.27	0.78	0.00	1.05
28	38° 34' 2.848" N	77° 20' 2.559" W	Stream	Quantico Creek	020700110104	0.47	2.23	0.00	2.70
29	38° 34' 3.155" N	77° 19' 35.764" W	Town to VDOT	Null	n/a	2.65	3.97	0.00	6.62
30	38° 33' 57.684" N	77° 19' 27.572" W	Stream	Quantico Creek	020700110104	4.64	3.12	0.00	7.76
31	38° 34' 8.946" N	77° 19' 14.951" W	Stream	Quantico Creek	020700110104	6.30	6.39	0.00	12.69
32	38° 33' 19.707" N	77° 19' 44.087" W	Stream	Unnamed	n/a	0.32	3.03	0.44	3.79
33	38° 33' 52.179" N	77° 19' 33.824" W	Town to VDOT	Null	n/a	18.30	28.89	18.31	65.50
34	38° 33' 28.673" N	77° 19' 30.856" W	Stream	Unnamed	n/a	0.40	0.40	0.00	0.80
35	38° 33' 57.966" N	77° 20' 0.411" W	Stream	Unnamed	n/a	0.04	0.05	0.00	0.08
36	38° 33' 58.614" N	77° 20' 0.469" W	Stream	Unnamed	n/a	0.06	0.00	0.00	0.06
37	38° 33' 41.250" N	77° 19' 52.534" W	Town to VDOT	Null	n/a	0.52	0.34	0.85	1.70
38	38° 33' 56.316" N	77° 18' 41.519" W	Stream	Quantico Creek	020700110104	0.83	1.63	0.00	2.46
39	38° 33' 40.620" N	77° 18' 25.922" W	Stream	Quantico Creek	020700110104	3.15	13.74	6.20	23.09
40	38° 33' 20.475" N	77° 18' 7.038" W	Stream	Quantico Creek	020700110104	0.23	0.31	0.00	0.54
41	38° 33' 59.829" N	77° 19' 43.681" W	Town to VDOT	Null	n/a	0.05	0.48	0.00	0.53
42	38° 33' 59.468" N	77° 19' 44.062" W	Town to VDOT	Null	n/a	0.11	0.04	0.00	0.15
43	38° 33' 57.993" N	77° 19' 36.074" W	Stream	Quantico Creek	020700110104	1.55	0.44	0.00	1.99
44	38° 33' 56.186" N	77° 19' 4.926" W	Stream	Quantico Creek	020700110104	2.95	2.34	0.00	5.28
45	38° 34' 16.281" N	77° 19' 6.961" W	Town to VDOT	Null	n/a	0.75	1.28	0.00	2.03
46	38° 34' 15.799" N	77° 19' 7.119" W	Town to VDOT	Null	n/a	0.19	0.06	0.00	0.25
47	38° 34' 2.872" N	77° 19' 36.694" W	Town to VDOT	Null	n/a	0.30	0.07	0.00	0.37
48	38° 33' 38.892" N	77° 19' 48.666" W	Town to VDOT	Null	n/a	1.70	5.20	0.64	7.55
49	38° 33' 21.046" N	77° 18' 6.549" W	Stream	Quantico Creek	020700110104	1.32	6.87	1.97	10.16
50	38° 33' 18.291" N	77° 18' 5.169" W	Stream	Quantico Creek	020700110104	0.19	0.64	0.00	0.83
51	38° 34' 19.835" N	77° 18' 41.188" W	Stream	Dewey's Creek	n/a	1.38	4.03	0.27	5.69
52	38° 34' 11.155" N	77° 18' 39.567" W	Stream	Dewey's Creek	n/a	3.01	11.02	0.45	14.48
53	38° 33' 57.438" N	77° 19' 37.021" W	Stream	Quantico Creek	020700110104	1.41	1.63	0.00	3.04
54	38° 34' 2.008" N	77° 19' 15.051" W	Stream	Quantico Creek	020700110104	4.55	2.20	0.00	6.75
55	38° 33' 57.345" N	77° 19' 32.594" W	Stream	Quantico Creek	020700110104	3.18	3.87	0.00	7.05
56	38° 33' 57.955" N	77° 19' 39.121" W	Stream	Quantico Creek	020700110104	0.06	0.44	0.00	0.50
57	38° 33' 58.049" N	77° 19' 29.117" W	Stream	Quantico Creek	020700110104	1.25	8.49	0.00	9.75
58	38° 33' 50.172" N	77° 20' 8.405" W	Stream	Unnamed	n/a	0.33	0.26	0.00	0.59
59	38° 33' 50.647" N	77° 20' 8.098" W	Stream	Unnamed	n/a	0.20	0.08	0.00	0.28
60	38° 34' 10.936" N	77° 19' 15.413" W	Town to VDOT	Null	n/a	24.53	85.17	4.89	114.59
61	38° 33' 28.199" N	77° 19' 31.697" W	Town to PWC	Null	n/a	0.03	0.01	0.00	0.04
62	38° 33' 40.311" N	77° 19' 48.271" W	Town to VDOT	Null	n/a	6.80	1.36	0.00	8.17
63	38° 34' 7.098" N	77° 19' 18.547" W	Town to VDOT	Null	n/a	0.15	0.05	0.00	0.20
				TOTAL		**182.29**	**345.38**	**47.90**	**575.57**

Dumfries MS4 Urbanized Area Summary			
Corporate Limits	986.93	Acres	
MS4 Service Area	575.57	Acres	
Impervious Area	182.29	Acres	31.7 %
Pervious Area	345.38	Acres	60.0 %
Forest Area	47.90	Acres	8.3 %
MS4 Area of Total Corporate L	58.32	%	

ARMY CORPS OF ENGINEERS 2004 SWM REPORT OUTFALLS				
Identifier	**Latitude**	**Longitude**	**Size**	**Type**
P	38° 34' 3.530"" N	77° 20' 5.871"" W	Natural	Natural
O	38° 34' 1.803"" N	77° 20' 1.878"" W	1.25	Round Concrete
N	38° 34' 0.479"" N	77° 19' 59.218"" W	4.5	Round Corrugated Metal
M	38° 33' 59.451"" N	77° 19' 57.307"" W	1.25	Round Concrete
L	38° 33' 58.037"" N	77° 19' 54.300"" W	1.5	Round Corrugated Plastic
I	38° 33' 56.593"" N	77° 19' 45.454"" W	1.7	Round Concrete
W	38° 33' 57.868"" N	77° 19' 43.896"" W	2	Round Concrete
G	38° 33' 57.272"" N	77° 19' 32.663"" W	Natural	Natural
Z	38° 33' 58.162"" N	77° 19' 29.343"" W	Natural	Natural
AA	38° 34' 1.990"" N	77° 19' 15.067"" W	4 x 6.3	Ellipse
E	38° 33' 55.941"" N	77° 19' 14.964"" W	2.5	Round Concrete
J	38° 33' 55.181"" N	77° 19' 49.725"" W	4.8	Round Corrugated Plastic
Q	38° 34' 2.848"" N	77° 20' 2.559"" W	3	Round Concrete
R	38° 34' 0.261"" N	77° 19' 57.733"" W	3.5	Round Concrete
S	38° 33' 59.971"" N	77° 19' 57.345"" W	1.5	Round Concrete
T	38° 33' 58.640"" N	77° 19' 53.942"" W	2	Round Concrete
U	38° 33' 57.196"" N	77° 19' 49.253"" W	2	Round Concrete
AF	38° 33' 41.450"" N	77° 18' 24.880"" W	4 x 5; 2.5	Ellipse Concrete; Round Concrete
AE	38° 33' 52.518"" N	77° 18' 38.074"" W	9 x 4	Conspan Corrugated Metal
AD	38° 34' 0.075"" N	77° 18' 52.180"" W	1.5	Round Concrete
D	38° 33' 48.518"" N	77° 19' 14.216"" W	4 x 3	Ellipse Concrete
K	38° 33' 56.449"" N	77° 19' 50.778"" W	1.25	Round Corrugated Metal
NH	38° 33' 31.587"" N	77° 20' 13.429"" W	2	Round Concrete
NI	38° 33' 31.101"" N	77° 20' 13.806"" W	1.5	Round Concrete
NC	38° 33' 41.145"" N	77° 20' 3.876"" W	2	Round Concrete
NA	38° 33' 54.651"" N	77° 20' 3.592"" W	1.25	Round Concrete
FC	38° 33' 43.196"" N	77° 19' 34.605"" W	6 x 3	Ellipse Concrete
FB	38° 33' 44.038"" N	77° 19' 33.875"" W	1.25	Round Concrete
CA	38° 33' 40.894"" N	77° 19' 15.114"" W	2	Round Concrete
CB	38° 33' 34.146"" N	77° 19' 18.077"" W	2.5	Round Concrete
CC	38° 33' 33.918"" N	77° 19' 18.005"" W	1.5	Round Concrete
CD	38° 33' 32.534"" N	77° 19' 21.391"" W	1.25	Round Concrete
CE	38° 33' 28.698"" N	77° 19' 30.863"" W	2	Round Concrete
CF	38° 33' 18.185"" N	77° 19' 50.848"" W	.5 (2 pipes)	Round Corrugated Plastic
AG	38° 33' 19.189"" N	77° 18' 4.468"" W	Unknown	Round Concrete
A	38° 33' 32.164"" N	77° 18' 49.037"" W	Natural	Natural
B	38° 33' 38.568"" N	77° 19' 3.423"" W	Natural	Natural
C	38° 33' 40.577"" N	77° 19' 12.266"" W	Natural	Natural
ZB	38° 34' 5.881"" N	77° 19' 26.426"" W	2.5	Round Concrete
ZD	38° 34' 6.905"" N	77° 19' 21.433"" W	3.1 x 2	Ellipse Concrete
H	38° 33' 56.897"" N	77° 19' 44.602"" W	2	Round Concrete
CG	38° 33' 31.820"" N	77° 19' 21.394"" W	Natural	Natural
F	38° 33' 57.439"" N	77° 19' 27.414"" W	Natural	Natural
FA	38° 33' 49.973"" N	77° 19' 34.801"" W	Natural	Natural
NB	38° 33' 42.876"" N	77° 20' 3.921"" W	1.5	Round Concrete
ND	38° 33' 44.897"" N	77° 20' 10.750"" W	Natural	Natural
NE	38° 33' 38.406"" N	77° 20' 12.655"" W	Natural	Natural
NG	38° 33' 35.688"" N	77° 20' 14.547"" W	Natural	Natural
X	38° 34' 0.499"" N	77° 19' 40.694"" W	1.5	Round Concrete
Y	38° 34' 1.562"" N	77° 19' 37.676"" W	2	Round Concrete
V	38° 33' 57.839"" N	77° 19' 44.853"" W	2	Round Concrete
ZA	38° 33' 58.492"" N	77° 19' 29.398"" W	Natural	Natural
AB	38° 34' 1.859"" N	77° 19' 14.871"" W	2.5 (2 pipes)	Round Concrete
AC	38° 33' 56.775"" N	77° 19' 3.140"" W	2.5	Round Concrete
AH	38° 33' 18.963"" N	77° 18' 3.777"" W	1.5	Round Concrete
NF	38° 33' 36.312"" N	77° 20' 12.776"" W	1	Round Concrete
CH	38° 33' 19.729"" N	77° 19' 44.655"" W	1.25	Round Concrete
RA	38° 34' 5.488"" N	77° 19' 55.119"" W	1	Round Concrete
AAC	38° 34' 20.718"" N	77° 19' 11.383"" W	3	Round Corrugated Plastic
AAE	38° 34' 29.113"" N	77° 19' 18.028"" W	1	Round Corrugated Plastic
AEO	38° 34' 36.664"" N	77° 19' 3.368"" W	2	Round Corrugated Plastic
AAI	38° 34' 41.601"" N	77° 19' 23.559"" W	1.25	Round Concrete
AAH	38° 34' 38.455"" N	77° 19' 22.794"" W	1.7	Round Concrete
AAG	38° 34' 35.964"" N	77° 19' 22.068"" W	1.5	Round Concrete
AAF	38° 34' 31.358"" N	77° 19' 18.660"" W	1.5	Round Concrete

AAD	38° 34' 21.753"" N	77° 19' 15.222"" W	4	Round Concrete
ZE	38° 34' 3.558"" N	77° 19' 32.707"" W	1.75	Round Concrete
ZC	38° 34' 5.075"" N	77° 19' 20.999"" W	1.5	Round Concrete
AAJ	38° 34' 16.611"" N	77° 19' 10.444"" W	1.25	Round Corrugated Metal
AAB	38° 34' 16.560"" N	77° 19' 10.269"" W	2.5	Round Concrete
AAA	38° 34' 16.038"" N	77° 19' 10.018"" W	1.25	Round Concrete
ZF	38° 34' 3.844"" N	77° 19' 33.502"" W	1.25	Round Concrete
NAA	38° 33' 50.140"" N	77° 20' 8.362"" W	1.25	Round Concrete
ZI	38° 34' 25.798"" N	77° 19' 42.495"" W	4 x 4	Box Concrete
ZH	38° 34' 23.151"" N	77° 19' 38.926"" W	4	Round Concrete
AEM	38° 34' 41.155"" N	77° 18' 43.710"" W	1.25	Round Concrete
AEN	38° 34' 40.979"" N	77° 18' 43.818"" W	10 x 4	Box Concrete
AEJ	38° 34' 32.908"" N	77° 18' 40.234"" W	2	Round Concrete
AEG	38° 34' 23.978"" N	77° 18' 41.328"" W	4	Round Concrete
AEH	38° 34' 24.319"" N	77° 18' 38.172"" W	Natural	Rip-Rap
AEA	38° 33' 56.430"" N	77° 18' 35.124"" W	Natural	Natural
AEB	38° 34' 1.983"" N	77° 18' 35.768"" W	Natural	Natural
AEC	38° 34' 2.275"" N	77° 18' 36.090"" W	Natural	Natural
AED	38° 34' 15.041"" N	77° 18' 39.840"" W	Natural	Natural
AEF	38° 34' 15.759"" N	77° 18' 41.013"" W	Natural	Natural
AEI	38° 34' 26.439"" N	77° 18' 38.304"" W	Natural	Natural
AEK	38° 34' 33.053"" N	77° 18' 39.175"" W	Natural	Natural
AEL	38° 34' 36.348"" N	77° 18' 38.468"" W	Natural	Natural
ZG	38° 34' 18.481"" N	77° 19' 38.509"" W	Natural	Natural
AEP	38° 34' 41.411"" N	77° 18' 41.728"" W	Natural	Natural
AE1	38° 34' 1.586"" N	77° 18' 50.980"" W	2	Round Concrete

APPENDIX B

Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual

May 2020

The Town of Dumfries
Department of Public Works
17739 Main Street,
Suite 200
Dumfries, VA 22026

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1. INTRODUCTION

1.1 Overview

The Town of Dumfries operates a municipal separate storm sewer system (MS4) that is regulated under the federal Clean Water Act (CWA). As a result, discharges from the Town's MS4 Outfalls into downstream waterbodies are authorized under the Virginia General Permit for Stormwater Discharges from Small MS4s (General Permit) issued by the Virginia Department of Environmental Quality (DEQ). As a condition of the General Permit, the Town is required to develop and implement a program to detect and eliminate illicit discharges to their MS4.

In order to address illicit discharges, the Town is required to eliminate illicit discharges from entry into the MS4 by promoting citizen reporting of illicit discharges and conducting follow-up inspections and proactively identifying and eliminating additional illicit discharges by conducting annual dry weather screenings and follow-ups.

This standard operating procedures (SOP) manual outlines the responsibilities and procedures that are to be implemented by the Town in order to comply with the General Permit conditions regarding Illicit Discharge Detection and Elimination (IDDE).

This SOP manual is applicable to the Town employees and its contractors assigned to inspect stormwater infrastructure for evidence of illicit discharges. This SOP is published by authority of the Town of Dumfries Department of Public Works.

1.2 Authority

The Town regulates illicit discharges under Chapter 26, Article VII. of the Town Code. Chapter 26 - 180 outlines prohibited illicit discharges. In addition, Chapter 26 - 186 outlines the authority to inspect and monitor stormwater outfalls or other parts of the storm sewer system. Chapter 26 -190 authorizes the Town to correct any violations with written notification of non-compliance and issuance of penalties.

In addition to Chapter 26 Article VII, the Town maintains certain authorities under additional Town Code. Those chapters include the following:

- The City's Solid Waste Ordinance [Chapter 46 -Solid Waste (1)] currently prohibits the dumping of solid or hazardous waste onto the public right-of-way, or onto the property of others, including prohibition of the disposal of the same into any streams or drainage areas in the Town.

1.3 Chapter Overview

This SOP manual establishes Town policies and procedures for detecting and eliminating illicit discharges, conduct dry weather screening, addressing citizen complaints, documenting activities and reporting illicit discharges. The manual is comprised of the following chapters:

Chapter 1: Introduction: The purpose and authority of this document are stated in Chapter

1. In addition, Chapter 1 provides an overview of the manual, as well as, the roles and responsibilities of the Town.

Chapter 2: Dry Weather Field Screening: Chapter 2 contains the Town procedures for conducting annual dry weather screening and includes such guidance as the roles and responsibilities of Town staff and completing initial field screening.

Chapter 3: Addressing Complaints: Chapter 3 contains procedures to address and document complaints regarding illicit discharges.

Chapter 4: Determining the Source of Suspect Discharges: The procedures provided in Chapter 4 detail how to successfully complete illicit discharge source determination tasks.

Chapter 5: Elimination of Illicit Discharges: The procedures provided in Chapter 5 provide guidance regarding how to eliminate suspect illicit discharges in accordance with Town Code and the General Permit.

Chapter 6: Contacting Other Agencies: Chapter 6 provides guidance for contacting the appropriate regulatory and emergency agencies. Information is also given on organizations to call and what to report.

Chapter 7: Safety: Chapter 7 provides guidance for providing a safe work environment.

1.4 Roles and Responsibilities

It is the responsibility of the Department of Public Works to lead the Town's efforts in addressing illicit discharges. The Department of Public Works oversees dry weather screening, as well as, addresses citizen complaints. Finally, the Department of Public Works documents and maintains records necessary to demonstrate compliance with the General Permit.

The address and contact information for the Department of Public Works is as follows:

John Wilmer Porter Municipal Building
17739 Main St., Suite
200 Dumfries, VA
22026 703-221-3400
(ext. 119)
703-221-3455 fax

As previously mentioned, the DPW is primarily responsible for the IDDE program; however, close coordination and communication between the different staff members within DPW is essential to the IDDE program. DPW manages many of the daily operations of the Town's services, which includes; Engineering and Construction; Solid Waste and Recycling; Highways, Streets and Sidewalks; Fleet Maintenance; Stormwater System Maintenance; and Facilities Maintenance. Regular briefings and data sharing must occur with appropriate Town staff.

2 DRY WEATHER FIELD SCREENING

2.1 Introduction

The Town is required by the General Permit to annually conduct dry weather screening at all sixty-nine (69) MS4 regulated outfalls under its ownership and/or operation. Currently, all of the outfalls that the Town owns and/or operates are within the Quantico Creek watershed. Chapter 2 incorporates the Town procedures for conducting dry weather field screening.

The procedures provided in Chapter 2 define general roles and responsibilities of Town staff, and explain the procedures for and completing initial screening tasks. The procedures are those required and evidence chain-of-custody requirements.

2.2 Roles and Responsibilities

Currently, the Town contracts a third-party contractor to conduct annual field screening for the Town. The following descriptions identify the roles and responsibilities of individual Town staff while conducting field screening activities:

Director of Public Works:

- Disseminate this SOP to appropriate staff.
- Implement this SOP.
- Provide the materials and equipment necessary to carry out the requirements of this SOP.
- Periodically review and update this SOP to account for changes in activities or regulatory requirements.
- Provide appropriate training to employees undertaking the inspection tasks.
- Ensure safety precautions are observed by all field staff.
- Report any emergencies or hazardous situations

Program Manager:

- Follow the guidelines contained in this SOP.
- Follow the direction of the supervisor.
- Take appropriate action when inspection reports indicate evidence of illicit discharge.
- Conduct inspections using the procedures outlined in this SOP.
- Document findings made during inspections using the form provided in Appendix 1 (Field Inspection Form).
- Manage data following an inspection operation.

- Conduct water quality testing of observed dry weather discharges.
- Determine the likely source of any suspected illicit discharge.
- Report to the supervisor any emergencies, hazards, and suspected illicit discharges.

2.3 Procedures for Selecting Appropriate Field Screening Days

The purpose of conducting dry weather field screening is to identify illicit discharges being discharged into the MS4 system. As such, sufficient time must have passed since the last rain event in order to provide distinction between stormwater runoff and illicit discharges. Field inspectors must only conduct field screening on Dry Weather days. The following procedure should be followed to determine dry weather days:

1. Research the National Weather Service website (http://www.weather.gov) and complete the following:
    a. Enter "Dumfries, VA" into the "Weather.gov Forecast" section and press enter. A web page for Dumfries will open.
    b. Under the "Current Conditions" section, click the "3 Day History" link, http://w1.weather.gov/data/obhistory/KNYG.html to check for hourly estimated rainfall at the KNYG Observation Site station at the Quantico Marine Corps Airfield within the past 48 hours.
    c. Calculate the sum of the hourly rainfall values (the 1-hr. column under the Precipitation heading) to determine the total hourly rainfall over the past 48 hours.
    d. If the sum of the total rainfall over the previous 48-hrs. is less than 0.1-inch, it is a dry weather day and field screening may proceed. If the sum of the total rainfall over the previous 48-hrs. is 0.1-inch or greater, field screening must be postponed for the day.
    e. The amount of rainfall should be provided to the field team for documentation on the Field Inspection Form (Box 6).

2.4 Conducting Field Screening

2.4.1 Introduction and Accessibility

Field inspectors must complete annual field screening on all sixty-nine (69) MS4 regulated outfalls. If a structure to be inspected is located on private property, staff must be granted permission for access. This can be accomplished via preliminary site visit or certified mail.

If accessibility cannot be obtained, field inspectors should note such on the Inspection Form and report this to Town Staff.

Some structures may be located in inaccessible areas such as those with thick vegetation

or steep slopes. Field inspectors should not risk injury in order to gain access to such structures.

2.4.2 Outfall Identification and Inspection

The following steps are to be completed for each outfall:

1. Follow the safety procedures outlined in Chapter 7.
2. Complete the top portion of the Inspection Form. Field staff should:
    a. Note inspection date and time (Box 1).
    b. Note the field staff present (Box 2).
    c. Note the Node ID of the outfall from the field map (Box 3).
    d. Note the Node ID of the structure downstream, if applicable (Box 4).
    e. Note the Node ID of the first structure upstream of the outfall (Box 5).
    f. Note the node location (Box 7)[4].
    g. Note the node type (Box 8), material (Box 9), size (Box 10), and condition (Box11).
3. Complete the *Area Reconnaissance* portion of the inspection form
    a. Note the receiving channel type, and condition (Boxes 12 & 13).
    b. Note the condition of surrounding vegetation (Box 14).
    c. Note any deposits or stains around the outfall (Box 15).
    d. Note whether flow is coming from the outfall (Box 16).

2.4.3 Flow Description

Field inspectors are to complete the following procedures when flow is found at an outfall:

1. Complete the *Flow Description* portion of the Inspection Form.
    a. Note flow depth, color, and transparency (Boxes 18, 19, & 20).
    b. Note flow oily sheen or odor (Boxes 21 & 22).
    c. Note floating matter in the flow (Box 23).
    d. Note any specific comments regarding flow (Box 24).
    e. Photograph the outfall and any issues in the area using a camera phone.

Field staff should use best professional judgment to interpret area reconnaissance and flow description results in order to determine if the outfall contains a suspect discharge. Additional guidance as to how to interpret this data can be found by referencing Chapter 11 of Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, published by the EPA. The field staff should use a severity index of three (3), as noted in the manual, in visually identifying a suspect

discharge. A copy of this Guidance Manual is available at http://nepis.epa.gov/Adobe/PDF/20017KFK.PDF.

2.5 FIELD SCREENING FOLLOW-UP

2.5.1 Documentation

Ensure all collected data, including any field screening documentation and photos are entered into the Town's IDDE inspection database.

2.5.2 Interpreting Results

Field staff should use best professional judgment to interpret area reconnaissance and flow description results in order to determine if the outfall contains a suspect discharge. Additional guidance as to how to interpret this data can be found by referencing Chapter 11 of Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, published by the EPA. The field staff should use a severity index of three (3), as noted in the manual, in visually identifying a suspect discharge. A copy of this Guidance Manual is available at http://nepis.epa.gov/Adobe/PDF/20017KFK.PDF.

2.5.3 Follow-up and Next Steps

Addressing Suspect Discharges

- If the outfall is identified as suspect and the source of the suspect discharge is not obvious, follow-up must be conducted using procedures outlined in Chapter 4.
- If the outfall is identified as suspect and the source of the suspect discharge is obvious, follow-up must be conducted using procedures outlined in Chapter 5.
- Suspect discharges involving sanitary sewage must be reported to the Town's Department of Public Works Director and Program Manager immediately. Town Staff must then report the discharge to the Service Authority.
- Any suspect discharge that has reached or has the potential to reach receiving waters to must be reported to DEQ in accordance with Chapter 6.

Non-Town Outfalls

If field screening is inadvertently completed on an outfall not owned or operated by the Town, the following actions should be taken:

- Any suspect discharge shall be reported to the responsible party.
- Suspect discharges being discharged through a Prince William County or Virginia Department of Transportation (VDOT) outfall should be reported to the applicable

organization using contact information found in Chapter 6.

- Suspect discharges being discharged through privately owned outfalls should be reported to DEQ using contact information found in Chapter 6.
- The Town outfall database should be updated to include the property owner, if applicable.

3 ADDRESSING COMPLAINTS

3.1 Introduction

In addition to identifying suspect discharges as part of dry weather screening activities, the Town will receive complaints from citizens and Town staff regarding suspect discharges. Citizens and Town staff are encouraged to report potential illicit discharges by calling (703) 221-3400 ext.119.

An Illicit Discharge Incident Tracking Form is provided in the Appendices. The form is intended for use with a phone reporting system, and is designed so that the responder can prompt the caller through each section. A description of the basic information collected during an incident report follows.

- *Incident ID* - Each incident should receive a unique identification code to ensure accurate tracking and public feedback.
- *Complainant Information* - Complainant contact information may be recorded; however, anonymous reporting is often preferred because it frees the complainant from potential reprisal. The date and time of incident must be noted, as it may be different than the time it was called in.
- *Responder Information* - The name of the responder and the time and date of the call should be recorded. The amount of precipitation in the past 24-48 hours, as described in Chapter 2.3 is also recorded for reporting purposes.
- *Incident Location* - The location of the potential illicit discharge is one of the most important yet difficult pieces of information to accurately collect. Unique and visible outfall numbering allows reports to be precisely located. In the absence of field- marked outfall numbering, complainant should be encouraged to provide the nearest street/intersection information and any general descriptions that tie the site to a nearby landmark or major land use (e.g., shopping center, school, etc.), as well as indicate whether the incident site is located in the stream corridor or in an upland area. Other options are to include blank space for narrative descriptions or for the response team to meet the complainant at a nearby known location if the complainant cannot provide sufficient information of the incident location.
- *Problem Type* - Providing a list of likely problems and problem descriptions can help to readily identify the potential source. The problem types will likely fall into the following five categories: (1) unnatural stream conditions, (2) sewage, (3) wash water, (4) oil/solvents, and (5) industrial wastes. “Other” should also be included, as exceptions will likely occur. By identifying a suspected origin, the field team may have a head start on the investigation and suspected repeat offenders can be screened through trend analysis.
- *Problem Indicator Description* - A description of the discharge odor and color, and type of floatables present permits investigators to know what they are looking for and to start preparing for how to handle the situation.
- *Investigation Notes* - To properly track and report suspected illicit discharges, the

investigation needs to be documented. Key information to record for the initial and follow-up investigation (if applicable) include the following:

- The date or dates that the illicit discharge was observed and reported
- The results of the investigation
- Any follow-up to the investigation
- Resolution of the investigation
- The date that the investigation was closed

Personnel must be trained to provide the basics of illicit discharge identification and details of the tracking and reporting process. The responder should be trained so that they understand the significance of the information being collected.

Potential emergency situations or threats to health and safety should immediately be referred to emergency services. Complaints involving the discharge of sanitary sewage or leaking public water lines should be referred to the Town of Dumfries, Department of Public Works at (703) 221-3400 x 119 or x 117 for immediate follow-up adhering to the procedures in Appendix 4 (Spill and Illicit Discharge Response and Reporting Standard Operating Procedure). All complaints received shall be entered into the IDDE database. In addition to the information provided at the time of the complaint, the following information should be entered into the IDDE database:

- Parcel ID
- MS4 outfall (if applicable)
- Receiving watershed
- Receiving stream
- Department to which the complaint was referred (if applicable)

3.2 Complaint Investigation

3.2.1 Initial Site Visit

An initial site visit to investigate complaints should be conducted. All attempts should be made to conduct the initial site visit as soon as practical but within three (3) business days of receiving the complaint. A site map will provide staff valuable information to help locate any potential illicit discharge present.

Staff must obtain permission from the property owner to access private property when investigating complaints. If permission is not obtained, staff should note that they were unable to obtain permission to access the property and document their observations from public property.

When investigating a complaint, staff may encounter one of the following suspect discharges:

- A continuous, active discharge.

- If a continuous active discharge is observed and the source of the discharge is not obvious, staff should utilize procedures included in Chapter 4.
- If a continuous active discharge is observed and the source of the discharge is obvious, staff should utilize procedures outlined in Chapter 5.
- No active discharge but evidence of a previous discharge exists.
- No evidence of a discharge.

3.2.2 Documentation and Recordkeeping

When conducting a site visit, staff should document the following information:

- Date and time of site visit
- Name of staff conducting the site visit
- Observed conditions
- Additional comments such as observed sources
- Photographs should be taken in order to document any observed conditions. Photo numbers and descriptions should be recorded as part of the documentation.

Documentation should be entered into the IDDE database.

3.3 Follow-Up and Reporting

3.3.1 Suspect Discharge Follow-Up

Public Works staff shall conduct follow-up in accordance to Chapter 4 and Chapter 5 of this SOP manual.

3.3.2 Reporting

Staff must follow any necessary reporting procedures as provided in Chapter 6.

4 DETERMINING THE SOURCE OF SUSPECT DISCHARGES

4.1 Introduction

As a condition of the General Permit, the Town is legally obligated to investigate suspect discharges that it determines are being discharged into its stormwater system. The Town can become aware of suspect discharges as a result of a complaint, staff observation or while conducting field screening activities. Chapter 4 provides guidance in identifying suspect discharge sources.

4.2 Preparing to Investigate Suspect Discharges

When preparing to investigate suspect discharges, staff should familiarize themselves with the composition and activities of the upstream drainage area as well as the nature of the suspect discharge. Both of these may provide valuable clues in identifying the source of upstream suspect discharges.

4.3 Investigating Suspect Discharges

Department staff should attempt to investigate suspect discharges within three (3) business days of their awareness. The investigation can be in conjunction with the complaint investigation described in Chapter 3.

Unless a potential source is not identified as a result of preparation, staff should begin their investigation where the suspect discharge was first identified and track the discharge methodically up the stormwater system following the safety guidelines established in Chapter 7.

If the suspect discharge is intermittent or no longer present, staff should attempt to determine the source by tracking the flow upstream using remaining evidence such as deposits and stains. All activities should be documented in accordance with Chapter 4.4.

If the source of an intermittent suspect discharge cannot be identified, staff must conduct a minimum of two follow-up investigations in attempt to identify the source. If known, staff should attempt to conduct field activities during the same day of the week and approximate time as when the initial suspect discharge was identified. If after six (6) months, the source of the suspect discharge has not been identified and the suspect discharge has not been observed, reported or identified another time, staff may close the investigation and document its closure.

To complete the investigation, field crews strategically inspect manholes within the storm drain network system to measure physical indicators that can isolate discharges to a

specific segment of the network. The goal is to isolate the discharge between two storm drain manholes. After the pipe segment has been identified, on-site investigations will be used to find the specific discharge or improper connection.

This method involves progressive sampling at manholes, catch basins and inlets in the storm drain network to narrow the discharge to an isolated pipe segment between two manholes.

Investigation can proceed progressively up the trunk (the largest diameter pipe of the storm drain system leading directly to the outfall) from the outfall and manholes tested along the way. Field crews start with the manhole closest to the outfall, and progressively move up the system, inspecting manholes until indicators reveal that the discharge is no longer present. The goal is to isolate the discharge between two storm drain manholes. Moving up the trunk of the storm drain system is effective for illicit discharge problems in relatively small drainage areas.

Visual observations are used to assess conditions in the manhole that will indicate an illicit discharge. Key visual observations that are made during manhole inspections include the following:

- Presence of flow
- Color
- Odor
- Floatable material
- Deposits, residue or staining

The results of storm drain system investigations should be systematically documented to guide future discharge investigations, and describe any infrastructure maintenance problems encountered.

4.4 Documentation and Recordkeeping

Documentation and recordkeeping is very important when attempting to identify suspect discharge sources. As such, all activities and observations should be documented. Each entry should include, at a minimum:

- Date and time of entry
- Staff names
- Location of the activity (e.g., manhole at 17739 Main St.)
- The activity (e.g., inspected manhole for flow)
- Observations (e.g., staining of the water)
- If photos are taken, record the photo numbers and photo descriptions

Documentation not only assists staff in tracking progress in determining the source but it also provides a valuable tool if future formal enforcement activities are employed as described in Chapter 5.

In addition, the IDDE database should be updated to include:

- Date of inspection
- Staff names
- The activity
- Observations

All photographs should be uploaded to the designated location.

4.5 Follow-Up and Next Steps

Once a source is identified, staff should coordinate with the appropriate regulatory agency as identified in Chapter 6. Staff should note on the IDDE database if the suspect discharge is being referred to another agency for follow-up. Staff should follow-up with agency within thirty (30) days to ensure that the suspect discharge was addressed. Documentation of the follow-up including date and results should be entered into the IDDE database.

5 ELIMINATION OF ILLICIT DISCHARGES

5.1 Introduction

Under the General Permit, the Town is required to investigate suspect discharges and eliminate illicit discharges from their stormwater system. The Town has several options for ensuring elimination of these illicit discharges once the source has been located.

5.2 Prohibited Discharges

The first objective to eliminating illicit discharges is to determine if the suspect discharge is an actual illicit discharge. Chapter 26-180 of the Town Code defines illicit discharges as any discharge to the stormwater system that is not composed entirely of stormwater, except discharges pursuant to a VPDES or VSMP permit, discharges resulting from firefighting activities, or discharges expressly allowed under this article. Prohibited substances, whether liquid or solid, include, but are not limited to: waste, trash, and garbage; food and kitchen waste; leakage from dumpsters or trash containers; gasoline, waste oil, lubricants, grease, antifreeze, or any other automotive, motor, or equipment fluids; fertilizers, grass clippings, mulch, and any yard waste; any chemical or solvent; soluble and nonsoluble metals; wash water, detergents, and cleaning agents; paints; plastics; soot, ash, and sludge; animal waste; eroded soils and sediment; carcasses; chlorinated swimming pool water; and, any material that impedes or interferes with the free flow of stormwater.

Certain non-stormwater discharges are allowed to be discharged into the Town stormwater system provided they are not found to be discharging sewage, industrial wastes or other wastes into the stormwater system. In accordance with Chapter 26-185 of the Town code, potential authorized, non-stormwater discharges may include the following:

- Discharges pursuant to a VPDES permit
- Discharges resulting from firefighting activities and other public safety activities
- Discharges associated with the maintenance or repair of public water, sanitary, and storm sewer lines, and public drinking water reservoirs and drinking water treatment or distributions systems conducted in accordance with applicable federal and state regulations and standards
- Discharges associated with any activity by the town, its employees and designees, in the maintenance of any component of a Town-maintained stormwater management facility conducted in accordance with applicable federal and state regulations and standard

- Water line flushing
- Landscape irrigation
- Diverted stream flows or rising groundwater
- Infiltration of uncontaminated groundwater
- Pumping of uncontaminated groundwater
- Discharges from potable water sources, foundation drains, irrigation water, springs, and water from crawl spaces or footing drains
- House washing and individual car washing on residential lots
- Dechlorinated swimming pool discharges with pH between 6.0 to 8.0 standard units, at ambient water temperature, and with less than 0.10 milligrams per liter or parts per million
- Air conditioning condensation
- Lawn watering
- Water from street, sidewalk or parking lot washing to remove algae or oil buildup
- Discharges associated with dye testing, provided that the program authority is notified in writing before the test

These discharges may not be considered illicit and may not require additional activity.

5.3 Education and Outreach

Many parties that are found to be the source of illicit discharges are unaware that what they are doing is illegal and may not even recognize that they are the source of the illicit discharge. Town staff should educate and provide outreach as the first step in eliminating illicit discharges. Staff should refer to the Town's public education media campaign to assist in outreach.

5.4 Notice to Comply

When public education and outreach has failed to eliminate the illicit discharge within a reasonable time frame or the Town determines that the illicit discharge is severe enough to not employ education and outreach, the Town may choose to issue a Notice to Comply to eliminate the illicit discharge in accordance with Chapter 26-190 of the Town Code. Notice to Comply must include a time frame by which the illicit discharge is eliminated or prevented from entering into the Town's stormwater system.

As a Notice to Comply is the first step in formal enforcement actions, Public Works staff must coordinate with all appropriate Town Departments in order to ensure proper protocol is followed. Such notice may require without limitation:

- The performance of monitoring, analyses and reporting;
- The elimination of illicit connections or discharges;

- That violating discharges, practices or operations shall cease and desist;
- The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; and
- Payment of the costs of administration and remediation; and
- The implementation of source control or treatment BMPs.

5.5 Citation to Court

If the responsible party fails to eliminate the illicit discharge from entering into the Town stormwater system, the Town may choose to pursue legal methods through citation to court in accordance with Chapter 26-190 of the Town Code.

Stormwater staff must coordinate with all appropriate Town Departments, including code enforcement and The Town Attorney, in order to ensure proper protocol is followed and necessary documentation is provided.

5.6 Confirmation of Elimination

Regardless of the method used to eliminate the illicit discharge, staff must confirm that the illicit discharge has been eliminated. Staff should schedule a site visit to document that the illicit discharge has been eliminated. If the site visit may be confrontational, staff should not attempt to contact the responsible party. Confirmation should be made from public property. If a hostile situation arises, staff should leave the area and contact the Town officials for guidance.

If the elimination of the illicit discharge is ordered by a Court, staff should obtain confirmation of elimination through the appropriate Town authorities rather than attempting to conduct a site visit.

5.7 Documentation

All activities employed by staff must be documented. For the purposes of recording efforts for eliminating illicit discharges the following must be documented in the IDDE Database:

5.7.1 Authorized Discharge

- Responsible party
- Responsible party address
- Type of discharge

- VPDES Number (if applicable)
- Town staff
- Summary of activity
- Date of confirmation that the discharge was an authorized discharge

5.7.2 Education and Outreach

- Date of activity
- Responsible party
- Responsible party street address
- Town staff
- Summary of educational activity employed and discussion
- Date of confirmation that illicit discharge was eliminated

5.7.3 Notice to Comply

- Responsible party
- Responsible party street address
- Date Notice to Comply sent
- Date Notice to Comply was received
- Date by which illicit discharge must be eliminated
- Date of confirmation that illicit discharge was eliminated

5.7.4 Court Citation

- Responsible party
- Responsible party street address
- Date of Court citation
- Summary of Court decision
- Date of confirmation that illicit discharge was eliminated

Staff should consult with the appropriate Town authorities to determine if any additional policies or procedures must be for formal enforcement actions.

6 CONTACTING OTHER AGENCIES

6.1 Introduction

As discussed throughout this SOP manual, often times other agencies have the necessary legal authorities and responsibility to address suspect discharges. Chapter 6 provides contact information for these agencies.

6.2 Other Regulatory Agencies

6.2.1 Prince William County Service Authority

Responsibilities:	Water Service
Address:	4 County Complex Court, Woodbridge, VA 22192
Phone Number:	(703) 335-7950

6.2.2 Virginia DEQ

Responsibilities:	Discharges Not Associated with the Town of Dumfries Storm Sewer System
	Discharges Regulated Under the VPDES Permitting
Program Address:	13901 Crown Court Woodbridge, VA 22193
Phone Number:	(703) 583-3864

6.2.3 Town of Dumfries, Department of Public Works

Responsibilities:	Illicit Discharges to or from Town of Dumfries
	MS4 Town of Dumfries MS4 Outfalls
	Town of Dumfries MS4 Permit Compliance
Address:	John Wilmer Porter Municipal Building
	17739 Main Street, Suite 200, Dumfries, VA 22026
Phone Number:	(703) 221-3400 x119 or x117

6.2.4 Prince William County, Department of Stormwater Management

Responsibilities:	Illicit Discharges to or from Prince William
	County MS4 Prince William County MS4
	Outfalls Prince William County MS4 Permit
	Compliance

Address:	Prince William County
	14715 Bristow Road, Manassas, VA 20112
Phone Number:	(703) 791-7205

6.2.5 Virginia Department of Transportation (VDOT)

Responsibilities:	Illicit Discharges from VDOT Right-of-
	Way VDOT MS4 Outfalls
	VDOT MS4 Permit Compliance
Address:	Northern Virginia District Office
	4975 Alliance Drive Fairfax, VA 22030
Phone Number:	(800) 367-7623

6.3 Reporting Illicit Discharges Not Entering the Town Storm Sewer System

If an illicit discharge does not enter into the Town's storm sewer system, the Town should contact the Northern Virginia Regional Office of the Virginia DEQ, 703-583-3864 immediately and provide the following information:

- The location of the illicit discharge
- When you found the discharge
- The quantity of discharge found
- The parameters that were found at unacceptable levels and their test results
- The likely source of pollution

6.4 Reporting Discharges to Receiving Waters from Town Outfalls

If an illicit discharge is found to be entering into the Town's stormwater system and the illicit discharge is discharging to, or has the potential to reasonably discharge to, receiving waters, the Town must contact the Northern Virginia Regional Office of VADEQ, 703-583- 3864 immediately or in no case later than 24-hours of the discovery of the discharge.

The Town must follow-up within five (5) days of the notification with a written report to Northern Regional Office of containing the following information:

- A description of the nature and location of the discharge
- The cause of the discharge
- The date on which the discharge occurred

- The length of time that the discharge continued
- The volume of the discharge
- If the discharge is continuing, how long it is expected to continue
- If the discharge is continuing, what the expected total volume of the discharge will be
- Any steps that the Town has planned or taken to reduce, eliminate and prevent reoccurrence of the present discharge or any future discharges

7 SAFETY

7.1 Introduction

Safety procedures must be followed by all inspection staff. Staff should take general safety precautions during all activities. These include the following:

- Activities such as field screening and follow-up illicit discharge detection inspections should not be completed in less than teams of two.
- Staff should wear a Town-issued safety vests at all times.
- Staff should visually survey the area attempting to be accessed in order to identify all potential hazards and should take all available efforts to minimize their exposure to those hazards.
- If exposure to an identified hazard cannot be eliminated or minimized, the staff should contact their supervisor for guidance and not enter into a hazardous situation.
- Staff must follow Occupational Safety and Health Administration (OSHA) work safety standards and other applicable guidelines.
- Staff should direct any questions concerning safety to their supervisor.

7.2 Physical Hazards

7.2.1 Removing Manhole Covers

The following safety measures should be followed to avoid injury while opening manhole covers:

- Bend knees, not waist. Do not lift the manhole cover with your back muscles. Use leg muscles and avoid twisting.
- Wear steel-toed boots or safety shoes to protect feet.
- Do not move manhole covers with hands or fingers.
- Do not enter manholes under any circumstances. Confined space entry must only be done by properly trained and equipped persons.

7.2.2 Traffic Safety

Staff should take extreme caution when working near moving traffic. At a minimum, staff should:

- Configure all lane closures in accordance with the Virginia Work Area Protection Manual.

- Mark the lane with traffic cones and/or signs to give adequate time and space for drivers to react and move around the work area.
- Wear safety vests and/or reflective clothing so that you will be visible to traffic.
- When access is required in extreme situations (e.g., busy highways, sharp turns), staff should coordinate with their supervisor in order to request assistance from Town Police and/or Fire Departments, or VDOT, to direct traffic and provide additional safety.

7.3 If Emergency Occurs

Immediately notify a supervisor using the most effective available mode of communication (cell phone, etc.) if any of the following situations arise:

- Any person is seriously injured or is in immediate danger of injury or death for any reason.
- The team suspects or discovers any situation requiring the immediate attention of emergency response teams.

Supervisors will call 911 and coordinate an emergency response. If contacting a supervisor first appears to pose an unacceptable risk, staff should call 911 directly prior to contacting their supervisor. Staff should then move to a safe location and wait for emergency responders to arrive.

When calling 911, callers should be prepared to provide the following information and remain on scene until emergency responders arrive:

- The reason for calling (injury, combustible gas, etc.)
- Name of caller
- Location of caller including address and nearest cross street
- Obvious details of the emergency situation
- Any other information requested by the 911 dispatcher

8 APPENDICES

The following appendices are made part of this SOP by reference:

1. Required Equipment and Material
2. Field Inspection Form
3. Illicit Discharge Incident Tracking Form
4. Inspection Equipment Storage

8.1 Equipment and Materials

Field staff should bring the following equipment to complete the tasks specified in the procedures:

Function	Item	Purpose
Record Data	Field Inspection Form	Provided in appendices
	Log Book	For general Notes
	Cell phone with Camera	For pictures of all structures
	Waterproof Pen	For notes
Safety	Traffic cones	To redirect traffic
	High Visibility Safety vests	For inspection team employees
	Full coverage clothing	Should be worn at all times
	Steel-toed boots or safety shoes	Should be worn when removing manhole covers

The supervisor and field staff will require the following equipment to be used at the office:

Function	Item	Purpose
Record Data	Computer	Store and view data

Other equipment may be needed to make the inspection process more efficient or safe.

8.2 Field Inspection Form

ILLICIT DISCHARGE FIELD INSPECTION FORM **TOWN OF DUMFRIES, VIRGINIA**

1. Inspection Date/Time	**3. Node ID**
2. Inspectors	**4. Downstream Node ID**
	5. Upstream Node ID
6. Rainfall within previous 48 hours (in)?	
7. Node Location Lat **Address** **Long**	
8. Node Type ☐ Outfall ☐ Curb Inlet ☐ Yard Inlet ☐ Manhole w/o Inlet	
9. Node Material ☐ Concrete ☐ Metal	**10. Node Size**
11. Node Condition ☐ Good ☐ Fair ☐ Rusting ☐ Crumbling	

☐ Clear
☐ Suspect
Inspectors Signature:
Database Entry Date:

Area Reconnaissance

12. Receiving Channel Type?	**☐ Concrete ☐ Asphalt ☐ Stone ☐ Grass ☐ Bare Soil ☐ Other, Explain**
13. Receiving Channel Condition?	**☐ Good ☐ Fair ☐ Poor**
14. Vegetation?	**☐ None ☐ Normal ☐ Overgrown ☐ Abnormal Dead Patched ☐ Abnormal Lush Green**
15. Deposits or Stains?	**☐ No ☐ Yes, Explain**
16. Is There Flow	**☐ Yes ☐ No**
17. Comments	

Flow Description

18. Flow Depth (in)?	
19. Water Color?	**☐ Clear ☐ Other, Explain**
20. Transparency?	**☐ Clear ☐ Cloudy, Explain**
21. Oily Sheen?	**☐ No ☐ Yes**
22. Odor? **(rotten eggs, oil, gasoline, chemical, chlorine, earthy, sewage , etc.)**	**☐ No ☐ Yes, Explain**
23. Floating Matter **(sticks, scum, sludge, algae, ect.)**	**☐ No ☐ Yes, Explain**
24. Comments	

8.3 Illicit Discharge Incident Tracking Form

Illicit Discharge Hotline Incident Tracking Sheet				
Incident ID:				
Responder Information				
Call taken by:			Call date:	
Call time:			Precipitation (inches) in past 24-48 hrs:	
Reporter Information				
Incident time:			Incident date:	
Caller contact information (*optional*):				
Incident Location *(complete one or more below)*				
Latitude and longitude:				
Stream address or outfall #:				
Closest street address:				
Nearby landmark:				
Primary Location Description	**Secondary Location Description:**			
☐ Stream corridor *(In or adjacent to stream)*	☐ Outfall	☐ In-stream flow	☐ Along banks	
☐ Upland area *(Land not adjacent to stream)*	☐ Near storm drain	☐ Near other water source (storm water pond, wetland, etc.):		
Narrative description of location:				
Upland Problem Indicator Description				
☐ Dumping	☐ Oil/solvents/chemicals	☐ Sewage		
☐ Wash water, suds, etc.	☐ Other: _____			
Stream Corridor Problem Indicator Description				
Odor	☐ None	☐ Sewage	☐ Rancid/Sour	☐ Petroleum (gas)
	☐ Sulfide (rotten eggs); natural gas	☐ Other: Describe in "Narrative" section		
Appearance	☐ "Normal"	☐ Oil sheen	☐ Cloudy	☐ Suds
	☐ Other: Describe in "Narrative" section			
Floatables	☐ None:	☐ Sewage (toilet paper, etc)	☐ Algae	☐ Dead fish
	☐ Other: Describe in "Narrative" section			
Narrative description of problem indicators:				
Suspected Violator (name, personal or vehicle description, license plate #, etc.):				

8.4 Sill and Illicit Discharge Response and Reporting Standard Operating Procedure (SOP)

TOWN OF DUMFIRES
DEPARTMENT OF PUBLIC WORKS

STANDARD OPERATING PROCEDURE (SOP)

SPILL AND ILLICIT DISCHARGE RESPONSE AND REPORTING

OBJECTIVE

The purpose of this SOP is to ensure that all spills and illicit discharges are handled in a safe and appropriate manner and that they are properly reported. This procedure covers proper response and reporting methods for all types of spills and illicit discharges. It applies to all Department of Public Works (DPW) employees discovering and/or responding to spills and illicit discharges and their supervisors.

Potential spills and illicit discharges may include, but are not limited to, the following:

- Sanitary Sewer Overflows (SSOs)
- Illegal Sanitary Connections, Spills, or Dumping
- Illegal Dumping of Solid or Liquid Hazardous Materials
- Illegal Discharges of Cleaning Products and Solvents
- Illegal Discharges of Wash Waters
- Spills of Oil and Petroleum Products
- Spills of Fuel
- Spills of Hazardous Materials

RESPONSIBILITY

DPW is responsible for coordinating and executing the activities outlined in this SOP.

BACKGROUND

Emergency Spills and Illicit Discharges

A spill or illicit discharge is considered an emergency when it poses a serious threat to human health or the environment. Emergency spills and illicit discharges must be handled by external or internal emergency hazardous materials responders.

Emergency spills and illicit discharges may consist of a significant amount of a hazardous material released or one in which the release of the substance cannot be controlled. Examples

of hazardous materials that would be considered an emergency are bleach, sulfuric acid, gasoline and diesel fuel (i.e., more than 25 gallons), and infectious materials.

Non-Emergency Spills and Illicit Discharges

A spill or illicit discharge is considered a non-emergency when it is not life threatening and will not result in serious environmental damage. Non-Emergency spills and illicit discharges are able to be easily handled by DPW staff.

Non-Emergency spills and illicit discharges may consist of a small amount of non-hazardous material released or one in which the substance can be easily controlled. Examples of materials that are non-hazardous that would be considered non-emergency are SSOs, wash waters, small amounts of gasoline or diesel fuel (e.g., less than 25 gallons), household hazardous wastes, etc.

PROCEDURES

Initial Notification and Response

All spills and illicit discharges, regardless of size, must be contained and cleaned up in a safe and effective manner. Spills and illicit discharges that affect or threaten public health, welfare, or the environment will be attended to immediately by protecting human safety, and containing and cleaning up the substance.

In the event that you discover or are alerted to a spill or illicit discharge, the following actions must be immediately taken:

1) Secure the site, taking priority to protect the health and safety of personnel responding to the spill or illicit discharge, bystanders, and the community.
2) Attempt to identify the material and source of the spill or illicit discharge.
3) Attempt to determine if the spill or illicit discharge should be considered an Emergency or Non-Emergency. If you are not able to **easily** make this determination, consider the spill an emergency

If a spill/illicit discharge is investigated and determined to originate or enter into another jurisdiction (i.e., Prince William County) contact that jurisdiction. If a source was not able to be identified follow the reporting process explained below.

Table 1 below contains a list of applicable contacts for spill and illicit discharge response and reporting. **Figure 1** below contains a flow chart containing the Spill and Illicit Discharge Response Procedures presented in this SOP.

Emergency Spills and Illicit Discharges

1) If the material/product is deemed potentially hazardous or is unknown to the first responder, the first responder must activate emergency response by contacting the Fire Department and Police Dispatch from a safe location and provide the following

information:

a. Name
b. Telephone Number
c. Location (Address and public or private property)
d. Possible injuries
e. Material/product, if possible (i.e., sewage, gasoline, diesel fuel, etc.)
f. Type and estimated quantity of spilled material
g. Source and destination (e.g., contained, storm drain, creek, etc.)
h. If there is immediate hazard to life or property
i. Indicate whether the incident appears to be a "Hazmat Incident" or "Possible Spill" to indicate the level of response required

2) Notify your supervisor and/or the DPW Director and provide the same information as outlined under Item 1.
3) If deemed safe by emergency response personnel, control and contain the material using dikes/berms, absorbent booms, socks, and/or soil until emergency response arrives. Focus control measures at location(s) of storm sewers and/or nearby waterways. Use personal protective equipment (PPE) to minimize the responder's exposure to hazardous substances.
4) If not deemed safe by emergency response personnel, stay in a safe area and allow only trained responders in the spill area in accordance with emergency response protocols provided by the responding agency. Keep the public away from area.
5) Document as many details of the spill or illicit discharge and the subsequent response as possible, including if/how much of the material entered the storm drain and if the material was released to nearby waterways.
6) If the material entered the storm drain and/or was released to a nearby waterway, complete the Spill and Illicit Discharge Incident Report Form (**Attachment 1**) and submit the form to your supervisor and/or the DPW Superintendent.

Non-Emergency Spills and Illicit Discharges

1) Notify your supervisor and/or the DPW Superintendent.
2) Control and contain the spill or illicit discharge using absorbent booms, socks, and/or soil (if necessary). Focus control measures at location(s) of storm sewers and/or nearby waterways.
3) If deemed safe, attempt to stop the spill or illicit discharge if it has not already been done. Use PPE to minimize the responder's exposure to hazardous substances.
4) Apply absorbent pads/material to clean up the material. If assistance or additional response materials are required for the cleanup of larger events contact DPW. **Do not hose down spills – use "dry" cleanup methods.**
5) Dispose of the collected waste in the hazardous waste area at the Prince William County Landfill or other location approved by the DPW Director.
6) Document as many details of the spill or illicit discharge and the subsequent response as possible, including if/how much of the material entered the storm drain and was released to nearby waterways.
7) If material entered the storm drain and/or was released to a nearby waterway, complete the Spill and Illicit Discharge Incident Report Form (**Attachment 1**) and submit the

form to your supervisor and/or the DPW Director.

All spills and illicit discharges, regardless of size or material, should be reported as soon as possible to the DPW Director or their designee.

The DPW Director will determine the appropriate reporting protocol.

Estimating Spill Volume

Volume of spills and illicit discharges can be estimated using various approaches. Individual spill or illicit discharge specific circumstances may dictate which method is appropriate and whether multiple methods need to be used (contained vs. uncontained spills). The person estimating the spill should make the best judgment on which method(s) to use and make best possible effort to estimate the spilled volume. **Attachment 2** provides details regarding the various approaches.

State, Federal, and Local Reporting

All spills and illicit discharges that reach a storm drain and/or a waterway must be reported to the appropriate agencies within the specified timelines as outlined in **Table 1**. The nature and quantity of the spill or illicit discharge will dictate which Federal, State, and Local agencies that must be contacted to report the incident immediately or within 24 hours of being notified of the event. The DPW Director must follow-up the initial verbal notification within five (5) days of the event with a written report to VADEQ Northern Regional Office containing the following information for each spill or illicit discharge that reach storm drains or receiving waters:

- A description of the nature and location of the discharge
- The cause of the discharge
- The date on which the discharge occurred
- The length of time over which the discharge continued
- The volume of the discharge
- If the discharge is continuing, how long it is expected to continue
- If the discharge is continuing, what the expected total volume of the discharge will be
- Any steps that the Town has planned or taken to reduce, eliminate, and prevent reoccurrence of the present discharge or any future discharges

RECORDKEEPING

For **ALL** spills and illicit discharges, the DPW employees must ensure that a Spill and Illicit Discharge Report Form (**Attachment 1**) is completed for each incident. In addition, the DPW Director of designee must maintain documentation of the time and date that applicable State, Federal, and Local agency(s) and affected property owners were notified of each spill and illicit discharge.

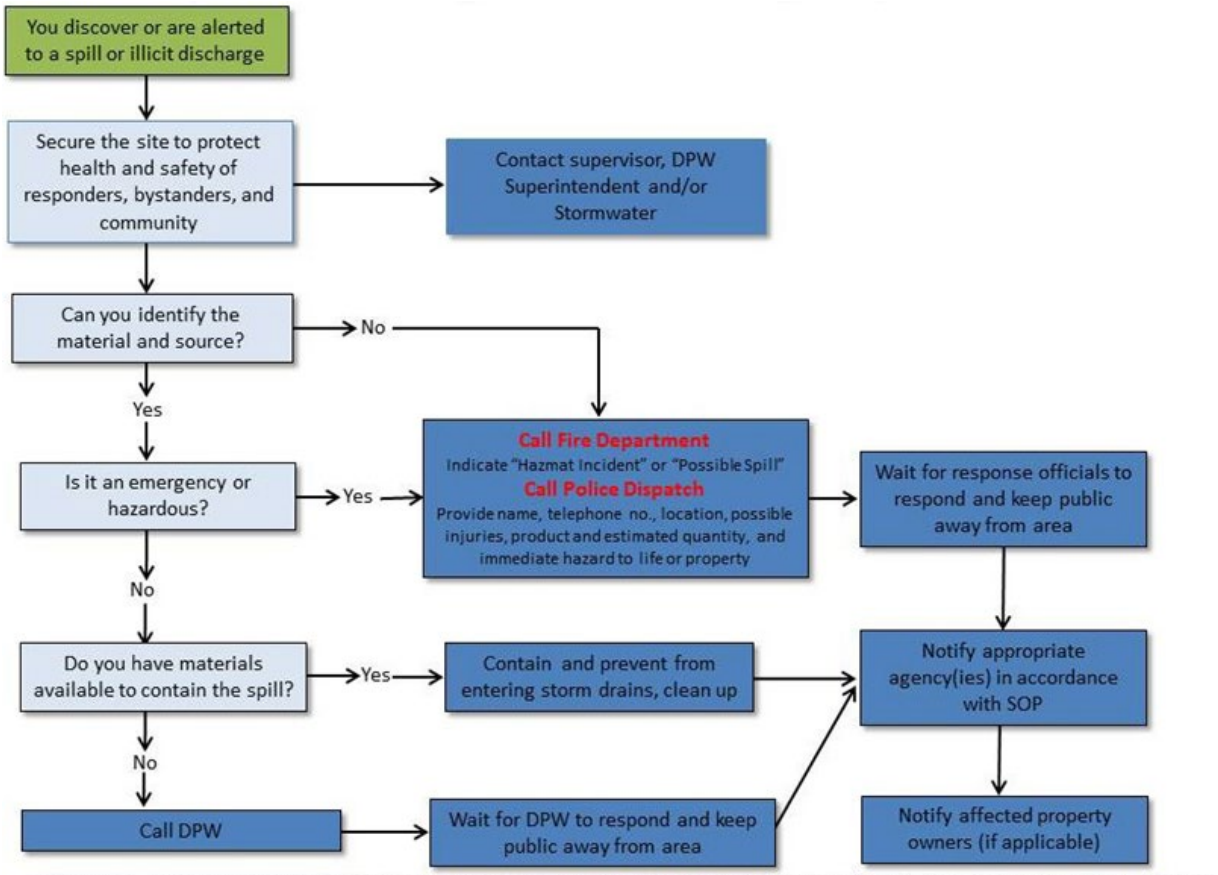
Table 1. Notification Procedures and Contacts

Depending on the nature and quantity of the spill or illicit discharge, the following individuals and organizations must be contacted by the DPW Superintendent, or their designee.

Agency/Organization	Contact Information	Circumstances	When to Notify
Local Agencies			
DPW Director	Office – 703-221-3400 x117 Cell – 571-224-2240	All spills and illicit discharges, regardless of size or material.	Immediately (verbal)
DPW Program Manager	Office – 703-221-3400 x119 Cell – 571-263-2428	All spills and illicit discharges, regardless of size or material.	
Fire Department	911	All spills and illicit discharges that pose emergency conditions, regardless of the size or material. **AND** Discharges of oil that reach storm drains or receiving waters.	
Police Department	703-221-1111	All spills and illicit discharges that pose emergency conditions, regardless of the size or material. AND Discharges of oil that reach storm drains or receiving waters.	
State Agencies			
VADEQ Pollution Response and Preparedness (PREP)	DEQ Northern Regional Office Coordinator 703-583-3864 (8:30 AM to 4:30 PM) Alternative website reporting at: http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/PollutionReportingForm.aspx	All spills and illicit discharges that discharge, or have the potential to reasonably discharge, to receiving waters regardless of size or material. **OR** All spills and illicit discharges causing a film or sheen on a waterway's surface, or leaves sludge or emulsion beneath the surface.	Immediately or within 24 hours (verbal or internet report) **AND** Within 5 calendar days (written)
Virginia Department of Emergency Management (VADEM)	1-800-468-8892 (nights, holidays, and weekends)	Non-business hour emergency spills and illicit discharges that reach storm drains or receiving waters, regardless of size or material. **OR** Non-business hour emergency spills and illicit discharges causing a film or sheen on the receiving water's surface, or leaves sludge or emulsion beneath the surface.	Immediately during non-business hours.
Federal Agencies			

National Response Center (NRC)	1-800-424-8802	Spills and illicit discharges reaching waterways or causing a film or sheen on the water's surface, or leaves sludge or emulsion beneath the surface.	Immediately upon gaining control of spill or illicit discharge (verbal)
Others			
Response and Cleanup Contractors	TBD	Spills and illicit discharges that exceeds the capacity of local agency capabilities for response and cleanup.	As needed
Prince William County Environmental Reporting	703-791-8805	Spills and illicit discharges originating outside of City's Jurisdiction	As needed

Figure 1. Town of Dumfries, Spill and Illicit Discharge Response Procedures



Emergency – A spill or illicit discharge that poses a serious threat to human health or the environment that must be handled by external or internal emergency hazardous materials responders.
Non-Emergency – A spill or illicit discharge that is not life threatening and will not result in serious environmental damage.

Attachment 1

Spill and Illicit Discharge Report Form

Spill and Illicit Discharge Reporting Form

Instructions: This form is to be completed by DPW field personnel and maintained by the DPW Director following the Spill/Illicit Discharge Response and Reporting SOP.

Initial Spill/Illicit Discharge Identification

Name and Address of Person Making Report	Contact Information Phone: Email:	
Date	Time of Identification AM PM	Time of Report to City AM PM
Description of event (material, source of discharge, etc.)		

Spill/Illicit Discharge Description

Location (address (preferred), cross streets, boating instructions, and/or gps coordinates)		Responsible Party (name and address)	
Date	Event Start Time AM PM	Event End Time AM PM	Occurring at time of Discovery? Yes No
Material (sewage, oil, chemicals, etc.)	Continuous flow Intermittent flow Discrete release (spill or dumping)		Estimated volume of the discharge in gallons
Cause of the discharge (SSO from manhole, sewage pumping from bus, oil spill, etc.)			
If the discharge is continuing, how long it is expected to continue and what will the expected total volume of the discharge be?			

Surface contacted *(check all that apply and describe)* Asphalt Concrete Soil To atmosphere	Resources entered *(check all that apply and describe)* Sewer, manhole number Storm drain, catch basin number Waterway Atmosphere
Description of the nature and location of the discharge	
List immediate actions taken to stop / control / contain the spill and describe the results *(calls made, equipment used)*	

Internal Notification and Reporting		
City Contact	**Name**	**Phone Number(s)**
Person(s) Responding to Spill		
Supervisor		
Department Director		

Reportable Quantity						
Substance	**Reportable Quantity**	**Fire Department**	**VADEQ PREP**	**VADEM**	**City E&C - Stormwater**	**NRC**
Any Emergency Spill	Any	Yes	Yes	Off Business Hours	---	Yes
Oil (in or on waterways)	Any	Yes	Yes	Off Business Hours	Yes	Yes
Sewage (into storm drains and/or in waterways)	Any	---	Yes	---	Yes	---
Hazardous Chemicals	See 40 CFR 302	Yes	Yes	Off Business Hours	---	---

Immediate External Agency Contact Log (to be completed by the Superintendent or their designee)				
Agency	**Contact**	**Contact Person**	**Time**	**Date**
Fire Department	Emergency Events 911	Dispatcher		
Police Department	Emergency Events 703-221-1111	Dispatcher		
VADEQ Pollution Response and Preparedness (PREP)	Business Hours Emergency/Non-Emergency Reaching Waterways or Causing a Film or Sheen on Water's Surface 703-583-3800 (alternatively via web address in SOP)	NOVA Office		
Virginia Department of Emergency Management (VADEM)	Emergency Non-Business Hours 1-800-468-8892	N/A		
National Response Center (NRC)	Events Reaching Waterways or Causing a Film or Sheen on Water's Surface reaching 1-800-424-8802	N/A		

Follow-Up External Agency Contact Log (to be completed by the Director or their designee)				
VADEQ Pollution Response and Preparedness (PREP)	Written Report of All Events Reaching Waterways or Causing a Film or Sheen on Water's Surface			

Describe the steps the Town has planned or taken to reduce, eliminate and prevent reoccurrence of the present discharge or any future discharges (alternative: attach written report submitted to PREP):

Attachment 2

Estimating Spill and Illicit Discharge Volume

METHOD 1: EYEBALL ESTIMATE

This method can be useful for smaller spills up to approximately 200 gallons. To use this method, imagine the amount of water that would spill from a bucket or barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and multiply by 50 gallons.

METHOD 2: MEASURED VOLUME

The volume of most smaller spills that have been contained can be estimated using this method. The shape, dimensions, and depth of the contained spill are needed. The shape and dimensions are used to calculate the area of the spill and the depth is used to calculate the volume.

Step 1 - Sketch the shape of the containment area

Step 2 - Measure or pace off the dimensions (length, width,

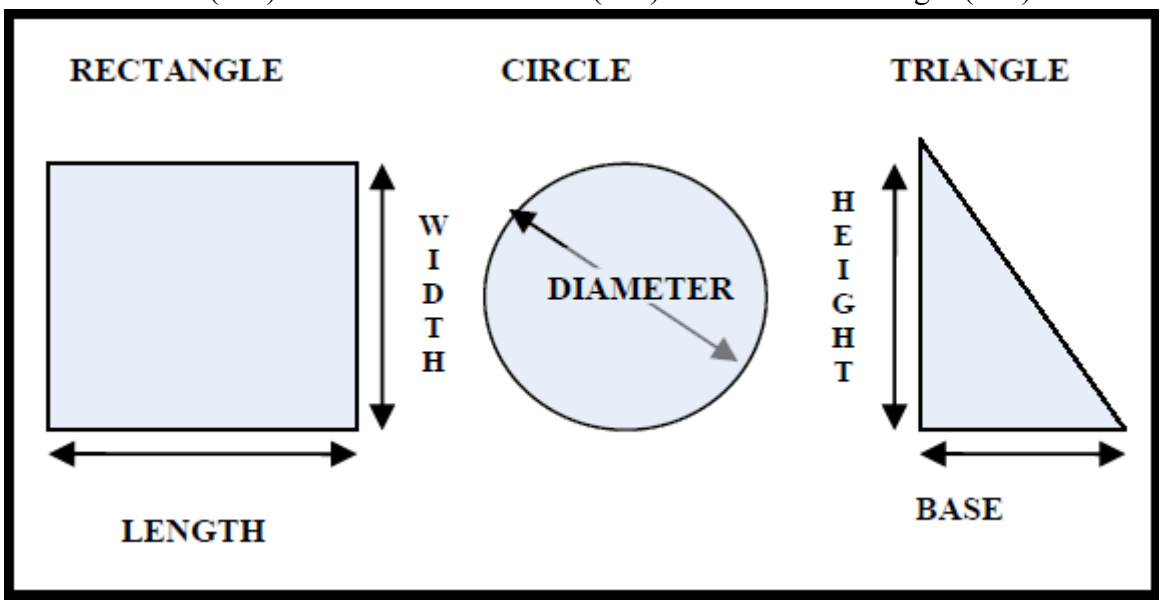
diameter, etc.) Step 3 - Measure the depth at several locations

and calculate an average Step 4 - Convert the dimensions

including depth to feet

Step 5 - Calculate the area using the following formulas:

Rectangular Area	**Circular Area**	**Triangular Area**
length (feet) x width (feet)	diameter (feet) x diameter (feet) x 0 .785	base (feet) x height (feet) x 0.5



Step 6 - Multiply the area (square feet) times the depth in feet to obtain the volume in cubic feet

Step 7 - Multiply the volume by 7.48 (number of gallons in one cubic foot) to convert it to gallons

METHOD 3: DURATION AND FLOW

This method is used when it is difficult or impossible to measure area and depth. The volume of the spill is estimated by multiplying the duration (in hours or days) by the flow rate (in gallons per hour or gallons per day).

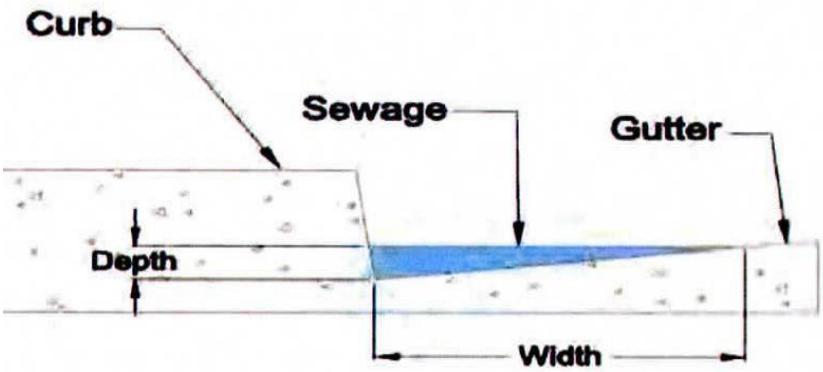
Duration

The time elapsed from the start of the spill to the time the spill

has stopped. Flow Rate

Flow rate is the average flow leaving the sewer system at the time the spill has stopped. Three ways to estimate the flow rate are:

- **Pictorial Reference:** Use a pictorial reference such as the California Water Environment Association (CWEA) Southern Section Collections System Committee (SSCSC) picture chart (Page 3) to determine the flow velocity then multiply the gallons per minute (gpm) times the time duration of the spill in minutes to obtain the total volume of the spill. The CWEA Southern Section sheet shows the sewage flowing from a manhole cover for a variety of flow rates.
- **Drop Bucket Method.** This method can be used for small spills where entire flow stream can be captured in a bucket. Time how long it takes to fill the bucket and divide the volume of the bucket (in gallons) by the elapsed time to fill the bucket (in minutes). This equals the flow rate in gpm.
- **Open Channel Spill Estimation.** For ditches, channels, gutters, etc. measure the cross sectional dimensions of the channel and determine the velocity of the flow. Measure the velocity by dropping a floating object into the flow and time over a measured distance (Flow (Q), ft^3/sec = Velocity (V), ft/sec X Area (A), ft^2). Flow times duration equals amount of spill.



Example: If it takes 30 seconds to fill a 5-gallon bucket and the spill has occurred for 20 minutes the total spill volume would be 200 gallons (5gal/0.5min = 10gpm X 20min = 200gal.)

- **Upstream Connections.** Once the location of the spill is known, the number of upstream connections can be determined from the field maps. Multiply the number of connections by 150 gallons per day per (gpd) connection or 8-10 gallons per hour (gph) per connection.

Once the duration and flow rate have been estimated, the volume of the spill is the product of duration in hours or days times the flow rate in gph or gpd.

APPENDIX C

Town of Dumfries
Department of Public Works
17739 Main Street
Dumfries, VA 22026
703-221-3400

Project Name/Address:_____ Permit No.:_____

Inspection Date:_____ Time:_____ Inspected By:_____

EROSION AND SEDIMENT CONTROL INSPECTION CHECKLIST

STAGE OF CONSTRUCTION:
☐ Pre-Construction Conference ☐ Rough Grading ☐ Building Construction ☐ Final Stabilization
☐ Clearing and Grubbing ☐ Site Construction ☐ Final Grading ☐ 48-hour rain event

Yes	No	Repeat Violation	N/A	
				CHESAPEAKE BAY ACT
☐	☐	☐	☐	Is Resource Protection Area marked in the field?
☐	☐	☐	☐	Is any clearing, grading, material storage, or other activity being done in the Resource Protection Area?
				CONSTRUCTION EXITS/ENTRANCES
☐	☐	☐	☐	Are public streets/sidewalks clean, free of dirt and debris?
☐	☐	☐	☐	Is stone relatively clean, able to remove dirt from tires?
☐	☐	☐	☐	Is stone installed across entire width of exit, 70 feet long?
				PERIMETER CONTROLS
☐	☐	☐	☐	Are all downslope sides of site protected?
☐	☐	☐	☐	Is silt fence entrenched, compacted, and backfilled?
☐	☐	☐	☐	Is filter fabric still functioning? No holes, tears, or down?
☐	☐	☐	☐	Is sediment at less than half the height of silt fence and straw bales?
☐	☐	☐	☐	Are dikes, berms, and ditches conveying all runoff to traps or basins?
				SILT TRAPS AND SEDIMENT BASINS
☐	☐	☐	☐	Are silt traps and basins filtering runoff?
☐	☐	☐	☐	Are shoulders of check dams higher than middle?
☐	☐	☐	☐	Do traps and basins still have storage capacity for sediment?
☐	☐	☐	☐	Have sides of traps and basins been stabilized?
				STABILIZATION
☐	☐	☐	☐	Are stockpiles stabilized with seeding or perimeter controls?
☐	☐	☐	☐	Are earthen structures, e.g. dams and dikes, stabilized?
☐	☐	☐	☐	Have denuded areas been stabilized within 7 days of final grade?
				Seeded? yes/no mulched? yes/no graveled? yes/no
☐	☐	☐	☐	Is permanent vegetation preventing erosion?
☐	☐	☐	☐	Are cut and fill slopes adequately stabilized?
☐	☐	☐	☐	Are outlets of traps and basins stabilized?
				MISCELLANEOUS
☐	☐	☐	☐	Are functional drop inlets protected adequately?
☐	☐	☐	☐	Are straw bales entrenched and double staked with no gaps?
☐	☐	☐	☐	Are temporary stream crossings installed across all live watercourses? Made of non-erodible materials?
☐	☐	☐	☐	Are check dams less than half full of sediment?
☐	☐	☐	☐	Is less than 500 feet of trench open at one time?
				PERMANENT CONTROLS
☐	☐	☐	☐	Are channels stabilized and outlets protected?
☐	☐	☐	☐	Have temporary controls been removed?
☐	☐	☐	☐	Are downstream properties and waterways protected from increases in peak stormwater runoff?
				SITE WORK
☐	☐			Are any site work problems anticipated?

Comments:

Signature of Inspector:	Date:

Signature of Owner/authorized representative:	Date:

Revised: 12/05/2019

APPENDIX D

Public Works

Environmental Plan Review Checklist

To be completed by DPW	
Plan Number:	_____
Reviewer:	_____
Previously Reviewed:	_____

Instructions: This checklist is to be completed during the design or during quality control check by the plan preparer and submitted with the permit application package. All items must be fully addressed and indicated so by checking the box for that item or providing rationale as to why the item has not been addressed. Where applicable, identify plan sheet(s) addressing specific requirements to help facilitate plan review.

Project Information

Project Address:	Project Name:
Total Disturbed Acres:	
Plan Prepared By: Date Checklist Prepared:	Email: Phone:
Parcel Owner:	Email Phone:

Check features applicable to this plan:

Yes	No		Yes	No	
☐	☐	Perennial Stream	☐	☐	Common Plan of Development
☐	☐	Wetland	☐	☐	Subdivision (3+ parcels)
☐	☐	100 Year Floodplain	☐	☐	Municipal Separate Storm Sewer System (MS4)
☐	☐	Chesapeake Bay Preservation Area	☐	☐	

Check which areas apply and complete indicated checklist section:

Checklist Section		Regulation/Guidance	Checklist Section		Regulation/Guidance
Section 2	☐	Erosion and Sediment Control [Chapter 26, Article IV]	Section 5	☐	Stormwater Management Facilities [Chapter 26, V]
Section 3	☐	Chesapeake Bay Plan [Chapter 70, Article III]	Section 6	☐	Floodplain [Chapter 70, Article III]
Section 4	☐	Storm Drain System [PWC Design Standards Manual]			

Check if additional permits or supporting documentation may apply and are included with application:

YES	NA	
☐	☐	USACE wetland delineation approval/permit
☐	☐	Stream perenniality study with all supporting documentation
☐	☐	City confirmation letter of stream perenniality study (include on appropriate plan sheet)
☐	☐	Nutrient Credit information (include DEQ approval of Bank and recorded approval of sale on appropriate plan sheet)
☐	☐	General permit coverage registration statement
☐	☐	A copy of all Federal permits
☐	☐	A copy of all State permits

Public Works

Environmental Plan Review Checklist

Section 1 – General Information

YES	SHEET #	REQUIREMENT	NA
☐		1) Cover Sheet	☐
☐		a) Project name	☐
☐		b) Owner/developer name, address, phone number, and contact person	☐
☐		c) Vicinity map with project outlined	☐
☐		d) List all required permits	☐
☐		e) Sheet index	☐
☐		f) Plan date/revision dates	☐
☐		g) List ESC quantities	☐
☐		h) List storm drainage quantities	☐
☐		i) Provide BMP summary table (example Excel file available for download)	☐
☐		2) Plan Sheets	☐
☐		a) Engineer's, Architect's, Land Surveyor's, or Landscape Architect's stamp signed and dated on all plan sheets	☐
☐		b) All drawings must be to scale	☐
☐		c) Provide a north arrow on every plan sheet	☐
☐		d) Show all existing and proposed contours (2' intervals maximum)	☐
☐		e) Show property lines with metes and bounds and owner information. Include legal description for adjacent properties	☐
☐		f) Provide detail schematic for plans that cover two or more sheets	☐
☐		g) Complete title block	☐
☐		h) Show and label extents of buildable area (setbacks, floodplain limits, RPA, *etc.*)	☐
☐		i) Show limits of construction, limits of disturbance, and limits of grading	☐
☐		3) Existing Conditions; show the following features, were applicable:	☐
☐		a) All 100-year flood plain limits (No land disturbance or structures shall be permitted in the floodplain limits without prior Town Approval)	☐
☐		b) Location and boundaries of tidal and non-tidal wetlands, as delineated on the National Wetland Inventory (NWI) Maps prepared by the U.S. Department of the Interior (available from the Program Administrator)	☐
☐		c) Any Chesapeake Bay Preservation Area (RMA and/or RPA) buffer zones	☐
☐		d) Existing/proposed right of way (including improved and unimproved)	☐
☐		e) All existing easements (utilities, streets)	☐
☐		f) Physical features, including streets, alleys, parking areas and existing site improvements to remain, such as structures and their use, parking areas, driveways and all areas of impervious cover	☐
☐		g) Existing utilities including storm sewer, curb and gutter, sewer (including septic drain fields), water, electrical, and gas	☐
☐		h) Existing streams, ponds, culverts, ditches, and other water bodies; including field located perennial streams	☐
☐		i) Soil types	☐
☐		j) Forest cover and other vegetative areas	☐
Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.			

Section 2 – Erosion and Sediment Control Plan

YES	SHEET #	REQUIREMENT	NA
☐		1) ESC Narrative per VAESCH	☐
☐		a) *Project Description* – Describe purpose and scope of land disturbing activity and area (acres) to be disturbed	☐
☐		b) *Existing Site Conditions* – Describe existing topography, vegetation, drainage, *etc.*	☐
☐		c) *Adjacent Site* – Describe neighboring areas, streams, lakes, residential areas, roads, parks, *etc*., which may be affected by the land disturbance	☐
☐		d) *Off-Site areas* – Describe if off-site soil borrow/disposal or off-site grading is planned	☐
☐		e) *Soils* – Provide brief description including, name, mapping unit, erodibility, permeability, depth, texture, and soil structure	☐
☐		f) *Critical areas* – Describe critical areas with potential erosion problems (long/steep slopes, water bodies, wetlands, *etc*.)	☐
☐		g) *Erosion & Sediment Control measures* – Describe methods and measures used	☐
☐		h) *Permanent stabilization* – Describe how the site will be stabilized after construction is complete	☐
☐		i) *Maintenance* – Designate responsible party for maintaining ESC measures	☐
☐		j) *Maintenance, continued* – Provide a description and schedule of regular inspection and repair of ESC measures	☐
☐		k) *Stormwater run-off considerations* – Will site cause increase in peak run off rates?	☐
☐		l) *Calculations* – All channels, basins, diversions, pre- and post-development run-off, MS-19, *etc*.	☐
☐		2) Show limits of disturbance outlined and labeled (all ESC measures must be within the limits of disturbance)	☐
☐		3) Show existing vegetation with any tree protection	☐
☐		4) Show limits of clearing and any undisturbed areas	☐
☐		5) Provide a soils map	☐
☐		6) Provide ESC measures during demolition of the site (this should be stated in the sequence of construction under the first phase)	☐
☐		7) Provide adequate access, staging, and stockpiling areas with appropriate ESC measures	☐
☐		8) List key of ESC measures with quantities	☐
☐		9) Show and label all ESC measures on plan sheet	☐
☐		10) List construction sequence/schedule specific to project and all phases, including any site demolition and removal of ESC measures	☐
☐		11) All detention/retention ESC measures within 20’ of a building's foundations must be evaluated	☐
☐		12) Show existing and proposed drainage patterns with flow arrows, time of concentration flow paths, and c- factors (or curve numbers)	☐
☐		13) Notate any off-site drainage areas (in acres) entering site	☐
☐		14) Sediment traps (Disturbed area with contributing drainage area of < 3 acres):	☐
☐		a) Provide inlet protection and outlet location	☐
☐		b) Maximize flow length from inlet to outlet	☐

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YES	SHEET #	REQUIREMENT	NA
☐		c) Provide existing drainage area, proposed drainage area, storage capacity, and all supporting calculations per VAESCH Chapter 3.13	☐
☐		15) Sediment basins (Disturbed area with contributing drainage area of > 3 acres):	☐
☐		a) Provide inlet and outlet protection	☐
☐		b) Maximize flow length from inlet to outlet (add baffles as needed)	☐
☐		c) Provide basin data as follows: Basin type, existing drainage areas, proposed drainage area, storage required, storage provided, weir crest elevation, storage depth, bottom dimensions, cleanout elevation, channel depth of flow, maximum side slopes (specify cut or fill), bottom elevation, embankment elevation, riser dimensions, barrel dimensions. Include Temporary Sediment Basin Design Data Sheet.	☐
☐		d) Show separate dewatering device for pipe outlet traps	☐
☐		e) Provide all supporting calculations per VAESCH Chapter 3.14	☐
☐		16) Temporary storm drain diversions	☐
☐		a) Show profile	☐
☐		b) Give invert elevations of temporary pipe into trap on plan view	☐
☐		c) Provide details	☐
☐		17) Required notes on plans	☐
☐		a) General ESC Notes 1-9 (VAESCH Chapter 6, Table 6-1, pg. VI-15)	☐
☐		b) City of Richmond Standard ESC notes	☐
☐		c) City of Richmond Standard ESC measure maintenance items	☐
☐		d) All 19 Minimum standards (9VAC25-840-40)	☐
☐		18) Provide details for all erosion & sediment control measures proposed per VAESCH Chapter 3	☐
☐		19) Provide temporary seeding schedule per ESC Technical Bulletin #4.	☐
☐		20) Provide permanent seeding schedule per ESC Technical Bulletin #4 (use Table 3.32-D for west of I-95 and Tabled 3.32-E for east of I-95).	☐
☐		21) Off-site grading requires written documentation of permission from adjoining owner. Otherwise, include on current permit or separate land disturbing plan.	☐
☐		22) Subdivision	☐
☐		a) For the MS-19 requirements, an analysis of the outfall of the proposed development shall be done so that the natural channel is extended to the receiving stream.	☐
☐		b) If the drainage analysis fails to meet MS-19, stormwater management shall be required at the road construction plan stage of submission for a central facility.	☐
☐		c) Any lots submitted for a building permit that are part of a subdivision development shall not be considered as separate project, rather the subdivision development, shall be considered as a single project. Therefore, the central stormwater management facility and the overall site grading plan shall govern.	☐
Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.			

Section 3 – Chesapeake Bay Plan

Instructions: Applicable requirements of a Chesapeake Bay Plan include: Physical site characteristics, proposed improvements, grading plan, BMPs, landscape plan, narrative, WQIA, hydrology, impacts, wastewater, stream perennial flow determination, USACOE wetland delineation approval, etc.

YES	SHEET #	REQUIREMENT	NA
☐		1) The Town of Dumfries Chesapeake Bay Information Manual has been reviewed by the plan preparer and submitted plan(s) meet all requirements	☐
☐		2) All existing conditions, as specified in Section 1 of this checklist	☐
☐		3) Location of all significant plant material, including all trees on site six inches or greater in diameter at breast height; groupings of trees or significant vegetation may be outlined	☐
☐		4) Areas of proposed impervious surface, including:	☐
☐		a) Streets, alleys, sidewalks, curbs and gutters, driveways, and access, loading and other paved areas	☐
☐		b) Structures, including building footprint, dimensions, and use	☐
☐		5) The location of any sewage disposal system or reserve drain fields	☐
☐		6) Preliminary grading plan and/or cross-section drawings (if necessary to evaluate site drainage and conservation of natural features)	☐
☐		7) If structural Best Management Practice (BMP)/stormwater management facilities are proposed, complete Section 5 of this checklist	☐
☐		8) Additional supporting information shown in a table format	☐
☐		a) Total site area	☐
☐		b) Total ChesBay area	☐
☐		c) Amount of impervious area	☐
☐		d) Amount of impervious area in ChesBay	☐
☐		e) Amount of open/forested space on site	☐
☐		f) Amount of open/forested space in ChesBay	☐
☐		g) Percentage of impervious area for existing and proposed conditions	☐
☐		9) An Erosion and Sediment Control Plan that meets (at a minimum) the requirements in Section 2 of this checklist, and specifically addresses stream crossings, wetland disturbances, and shoreline conditions	☐
☐		10) Landscape plan	☐
☐		a) Major landscaping features, including existing vegetation, to be retained	☐
☐		b) Clear delineation of all trees proposed for removal	☐
☐		c) Description of plant species to be disturbed or removed	☐
☐		d) Treatment of the RPA buffer, indicating proposed landscaping and vegetation to be retained by type and quantity	☐
☐		e) Replanting schedule for trees and other significant vegetation removed for construction, including list of trees and plants to be used	☐
☐		f) Demonstration that the design will preserve, to the greatest extent possible, any significant trees and vegetation on site and provide maximum erosion control and overland flow benefits; provide description in narrative	☐
☐		g) Demonstration that at least 80% of the species are native, non-invasive (Use other reputable sources include, the Town of Dumfries Chesapeake Bay Information Manual)	☐

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YES	SHEET #	REQUIREMENT	NA
☐		h) At the discretion of the Program Administrator, the applicant may be required to provide additional information, particularly in support of significant mitigation requirements for a project that disturbs more than 50,000 square feet of area	☐
☐		11) A Water Quality Impact Assessment (WQIA) is required for all development proposed in an RPA or any other area warranted as determined by the Program Administrator. The WQIA consists of the following elements:	☐
☐		a) Describe existing topography, soils, hydrology and geology of the site and immediately adjacent lands	☐
☐		b) Describe impacts of the proposed development on topography, soils, hydrology and geology on site and adjacent lands	☐
☐		c) Quantify disturbance/destruction of wetlands and provide justification	☐
☐		d) Describe disruption/reduction in supply of water to wetlands, streams, lakes, rivers or other water bodies	☐
☐		e) Describe disruption to existing hydrology, including wetland and stream circulation patterns	☐
☐		f) Provide source, location and description of proposed fill material	☐
☐		g) Characterize dredge material and provide location of dumping area for material	☐
☐		h) Locate and describe impacts on shellfish beds, submerged aquatic vegetation, and fish spawning areas	☐
☐		i) Describe any creation of wetlands to replace those lost	☐
☐		j) Describe efforts to minimize cut and fill	☐
☐		12) A Landscape Mitigation Plan as per the Riparian Buffer Mitigation Manual for all RPA encroachments	☐
☐		13) Septic System & Drain Fields	☐
☐		a) Show any existing septic tank and drain field location	☐
☐		b) Include calculations and locations of anticipated changes which affect existing septic drain field or wastewater irrigation areas	☐
☐		c) Provide justification for sewer line locations in environmentally sensitive areas and describe construction techniques and standards	☐
☐		d) New septic tanks are not allowed	☐
☐		14) All proposed development plans in or in proximity to the RPA shall include, on the plans, the following narrative:	☐
☐		<u>Resource Protection Area (RPA) restrictions (see TOD Code Chapter 70 Sec. 70-448)</u> a) The RPA buffer must be retained in an undisturbed and vegetative state as specified in the Chesapeake Bay Preservation Area Designation and Management Regulations. b) Only water-dependent facilities or redevelopment shall be allowed in the RPA.	☐
Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.			

Section 4 – Storm Drain System

Instructions: All storm drain systems shall be designed according to the PWC Design and Construction Standards Manual. In General, components required for review of a storm drain system include: e*xisting hydrology, proposed hydrology, hydraulics (culvert, storm drain, open channel), profiles, calculation/modeling report with narrative/data/results, etc.*

YES	SHEET #	REQUIREMENT	NA
☐		1) Hydrology	☐
☐		a) Identification of each stormwater outfall, including existing and proposed drainage areas: show size of drainage area, time of concentration flow path, composite break down of the runoff coefficient, and arrows indicating flow directions	☐
☐		b) Clearly define any sub-drainage areas and drainage divide lines	☐
☐		c) Show all existing and proposed hydrology computations	☐
☐		2) Hydraulics	☐
☐		a) Show and label all existing and proposed drainage structures on plan	☐
☐		b) Existing and proposed storm drain pipes should show the length of the pipe, the size of the pipe, and the type of the pipe in plan and profile	☐
☐		c) Any storm drainage within a building footprint shall comply with Chapter 7 in the latest edition of the International Plumbing Code.	☐
☐		d) Storm drainage design requirements:	☐
☐		i. Show all storm drain hydraulic computations on plans	☐
☐		ii. Demonstrate the 10-year design flow less than pipe capacity	☐
☐		iii. Storm sewer slopes meet minimum criteria (0.3%)	☐
☐		iv. All calculations shall be submitted on standard VDOT forms or other acceptable documentation	☐
☐		v. Manhole steps required in structures 4-feet and greater in depth	☐
☐		vi. Provide a minimum cover meeting the requirements of Section 5.4.4 of the Stormwater Design and Construction Standards Manual for all storm drain structures, OR, provide protective fill for all storm drainage with less than two feet of cover	☐
☐		vii. Provide storm drain load protection where necessary such as cradle and encasement (provide pipe loading table on plan)	☐
☐		viii. Show and analyze the outfall of the storm drain profile. Submit storm drain computations to support all drainage outfalls	☐
☐		ix. Specify/show on plan/profile a dimensioned outfall channel section with 10-year lining depth, side slopes, bottom width	☐
☐		e) Open channel design requirements:	☐
☐		i. Provide cross-section details for open channel section. Show and label the location of the section on plan. Show the section's depth of flow, velocity, discharge and channel lining 'n' value, *etc*.	☐
☐		ii. Open channel depth of flow less than 3', otherwise flow path shall be piped	☐
☐		iii. Maximum permissible flow velocity of 3.5 fps for grass ditches	☐
☐		iv. Open channel longitudinal slope > minimum slope (0.2%)	☐
☐		v. Show rip-rap channel(s) meet design criteria: >100 ft from front of single family dwellings, unless otherwise approved;	☐

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YES	SHEET #	REQUIREMENT	NA
		>75 ft from rear of single family dwellings	
☐		vi. Rip-rap lining thickness meets minimum criteria of 24-inch thickness with geotextile fabric underlayment	☐
☐		vii. Specify paved channels when open channel slopes < 0.75%	☐
☐		viii. Where paved channels are steeper than 15%, anchor lugs are required every 10-feet on center	☐
☐		ix. 9-inch freeboard (vertical wall) is required along outside radius of paved ditches	☐
☐		f) Storm drain/open channel profile requirements:	☐
☐		i. Show existing and proposed storm drain profiles, where applicable	☐
☐		ii. Show existing ground and proposed grade surface elevations along the centerline of the system	☐
☐		iii. Label the percent grade (slope) and length	☐
☐		iv. Label the size and type of material	☐
☐		v. Show and label all existing and proposed storm drain structures to include rim elevations, inverts in and out, *etc*.	☐
☐		vi. Show the hydraulic grade line on storm drain profile (all hydraulic grade lines must be supported with computations shown on plan)	☐
☐		vii. Show and label all existing and proposed utilities that cross the proposed storm drain/open channel and label clearances (minimum clearance is required)	☐
☐		viii. Show all storm drain crossings with the appropriate clearances	☐
Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.			

Section 5 – Stormwater Management Facilities

Instructions: Complete the following checklist to document RSMP, technical criteria, and BMP requirements.

YES	SHEET #	REQUIREMENT	NA
☐		1) Stormwater management plan requirements (9VAC25-870-55)	☐
☐		a) A general description of the proposed stormwater management facilities and the mechanism through which the facilities will be operated and maintained after construction is complete;	☐
☐		b) Documentation and summary of calculations verifying compliance with the water quality and quantity requirements (9VAC25-870-63 and 9VAC25-870-66, respectively); or	☐
☐		c) If an operator intends to meet the quality and quantity requirements using off-site compliance options, where applicable, then a letter of availability from the off-site provider must be included, as well as documentation of the applicant's acquisition of nutrient credits;	☐
☐		d) A map or maps of the site includes:	☐
		i. Existing conditions, as defined in Section 1	
☐		ii. Existing and proposed land use/land cover with tabulation of percentages of surface area for various uses (if not already included with Section 3);	☐
☐		iii. Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;	☐
☐		iv. Proposed stormwater management facilities and associated existing and proposed drainage patterns;	☐
☐		e) Stormwater management facility/BMP design calculation summary. (See VA Stormwater Management Handbook or Virginia Stormwater BMP Clearinghouse standards and specifications, as appropriate.) Refer to Item 4 for additional calculation requirements	☐
☐		2) Profile requirements	☐
☐		a) Storm drainage system entering device (refer to Section 4 of this checklist)	☐
☐		b) Low flow channel in basins (Pilot channel)	☐
☐		c) Profiles of all structures	☐
☐		d) Existing ground	☐
☐		e) Proposed grade	☐
☐		f) Pipes and other utilities	☐
☐		g) Water Surface Elevation of 2, 10 and 100-year design storms and Normal Pool	☐
☐		h) Emergency spillway elevation	☐
☐		i) Sub-surface details, if required (i.e., cutoff trench, clay core, clay liner, *etc.*)	☐
☐		3) Additional Stormwater BMP information	☐
☐		a) All BMPs	☐
☐		i. Construction and material specifications	☐
☐		ii. Details and notes	☐
☐		iii. All permanent material to be equal to standard inlet and structure quality and materials	☐
☐		iv. Grades 15% max	☐
☐		v. Side slopes 2:1 max	☐

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☐		vi. maintenance access provisions (fence and gate details with location, height, materials, and specifications, if applicable)	☐
☐		b) Infiltration BMPs	☐
☐		i. Soil investigation data	☐
☐		ii. Soil borings locations	☐
☐		iii. Soil classification	☐
☐		iv. Strata profile	☐
☐		v. Water table elevation	☐
☐		vi. Elevations of strata	☐
☐		vii. Location and easements	☐
☐		viii. Phreatic line	☐
☐		c) Attenuation BMPs	☐
☐		i. Design flow inundation areas	☐
☐		4) Design Report	☐
☐		a) Narrative	☐
☐		i. Explanation of method used	☐
☐		ii. Findings of existing conditions	☐
☐		iii. Proposed development	☐
☐		iv. Best management investigation	☐
☐		v. Alternatives considered	☐
☐		vi. Why chosen or abandoned	☐
☐		vii. Water quality benefits of design	☐
☐		viii. Peak management benefits of design	☐
☐		b) Design data	☐
☐		i. Formulas and source of information	☐
☐		ii. HEC-2 or HEC-RAS, or other appropriate computer modeling input/output	☐
☐		iii. Details, nomographs, formulas	☐
☐		1. Existing peak flows for 2- and 10-year storms	☐
☐		2. Proposed peak flows for 2- and 10-year storms	☐
☐		3. Performance curve of device (elevation vs. discharge)	☐
☐		4. Hydrograph plot for proposed conditions 2- and 10-year storms	☐
☐		5. Water quality computations	☐
☐		iv. Clearances – vertical and horizontal	☐
☐		c) Outfall study	☐
☐		i. Existing conditions recommendations and hydraulic analysis	☐
☐		ii. Proposed conditions	☐
☐		1. Statement	☐
☐		2. Proposed flows	☐
☐		5) Maintenance Requirements	☐
☐		a) Provide inspection and maintenance schedules/frequencies on plans	☐
☐		b) Stormwater Utility Maintenance Agreement (SUMA) completed by owner and notarized	☐
☐		c) Stormwater Management Access Exhibit (Attachment A) provided	☐

☐		6) For projects with Limits of Disturbance > 1 acre:	☐
☐		a) Pollution Prevention Plan (PPP, Standard plan sheet available for download), that addresses the following:	☐
☐		i. Wastewater from washout of concrete	☐
☐		ii. Washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials	☐
☐		iii. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance	☐
☐		iv. Soaps or solvents used in vehicle and equipment washing	☐
☐		b) Stormwater Pollution Prevention Plan (SWPPP)	☐
☐		i. Designation forms	☐
☐		ii. See template for a list of requirements	☐
Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.			

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Section 6 – Floodplain

Instructions: For Floodplain management review, provide the following: a description of work, other development activities, floodplain determination, building alterations, etc.

Description of work

Activity	Structure Type
☐ New Structure	☐ Residential (1-4 family)
☐ Addition	☐ Residential (>4 family)
☐ Alteration	☐ Non-residential (Floodproofing? ☐ Yes ☐ No)
☐ Relocation	☐ Mixed Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home (In Manufactured Home Park? ☐ Yes ☐ No)
☐ Replacement	

Nearest intersection: _____

Estimated Cost of Project: $ _____

Other Development Activities
☐ Clearing ☐ Fill ☐ Mining ☐ Drilling ☐ Grading
☐ Excavation (except for structural development checked above)
☐ Watercourse Alteration (including dredging and channel modifications)
☐ Drainage Improvements (including culvert works)
☐ Road, Street or Bridge Construction
☐ Subdivision (☐ New or ☐ Expansion)
☐ Individual Water or Sewer System
☐ Other:

Floodplain Determination

The proposed development is located on:		FIRM Panel #:	Effective Date:
The proposed development is:			
Yes	No		
☐	☐	Partially located in the SFHA, but building/development is NOT	
☐	☐	Located in a Special Flood Hazard Area	
		FIRM Zone designation is: _____	
		100-year flood elevation at the site is _____ ft. NAV88 (MSL) *or* ☐ Unavailable	
☐	☐	Located in the floodway	
☐	☐	Located in the flood fringe	

Additional Information
Change in water elevation ____ ft., meets floodplain ordinance limits.
Top of new compacted fill elevation: _____ ft. NAVD 88 (MSL)
Floodproofing protection level (non-residential):_____ ft. NAVD 88 (MSL)

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YES	SHEET #	Requirement	NA
☐		1) Show ultimate condition (as zoned) for the 100-year storm	☐
☐		2) Show existing natural channel grade:	☐
☐		a) Profile along natural line boundary to boundary	☐
☐		b) Average grade line	☐
☐		3) Show required plan information	☐
☐		a) Base Flood Elevation (BFE) at the property limits and work area	☐
☐		b) Limits of Special Flood Hazard Area (SFHA) including floodway where applicable	☐
☐		c) Location and elevation of existing and proposed construction in the SFHA, including, but not limited to: streets, pavement, retaining walls, accessory buildings, swimming pools, parking lots, driveways, trash enclosures, storage tanks, and other onsite features	☐
☐		d) The extent of watercourse relocation and/or landform alterations	☐
☐		e) Compaction requirements for fill areas	☐
☐		f) Locations of existing and proposed underground utilities	☐
☐		g) “100-year” flood elevations, if they are not otherwise available, for subdivision or other development plans (Required if the subdivision or other development exceeds 50 lots or 5 Acres, whichever is the lesser)	☐
☐		4) Show information required if buildings are to be constructed, enlarged, or altered within the floodplain	☐
☐		a) Anchorage of proposed structures, including details for anchoring structures	☐
☐		b) Residential: Basement or lowest floor at least 1 foot above BFE	☐
☐		c) Non-Residential: Lowest floor or flood proofing 1 foot above BFE	☐
☐		d) For floodproofed structures, applicant must attach certification from registered engineer or architect	☐
☐		e) Show types of water-resistant materials used below the first floor	☐
☐		f) Provide details of floodproofing of utilities located below the first floor	☐
		g) Provide details of enclosures below the first floor	
☐		h) Show venting of enclosed areas for pressure equalization	☐
☐		i) Demonstrate that electrical, heating, ventilation, plumbing, air-conditioning, and other service equipment is designed or located to prevent water from entering or accumulating within the components during flooding (above BFE)	☐
☐		j) Show on-site waste disposal systems located to avoid impairment or contamination	☐
Provide reasoning for above NA responses in the space below. Attach additional pages if necessary.			

APPENDIX E

Erosion & Sediment Control and Virginia Stormwater Management Programs Permitting Policy and Procedures Manual

Town of Dumfries
Department of Public Works

June 2020

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i. Definitions and Acronyms

I. DEFINITIONS

The following words and terms used in this manual have the following meanings, unless the context clearly indicates otherwise. In addition, some terms not defined herein are defined at 9VAC25-870-10 of the Virginia Stormwater Management Regulations, as amended, and are incorporated by reference herein.

Administrator means the Virginia Stormwater Management Program (VSMP) authority including the Town staff person or department responsible for administering the VSMP on behalf of the Town, or any duly authorized agent of the Administrator. Until amended by ordinance, the Administrator for the Town is the Director of the Department of Public Works.

Applicant means any person submitting an application for a permit under this article.

Best management practice or *BMP* means schedules of activities, prohibitions of practices, including both structural and nonstructural practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land-disturbing activities.

Chesapeake Bay Preservation Act land-disturbing activity means a land-disturbing activity including clearing, grading, or excavation that results in a land disturbance equal to or greater than 2,500 square feet and less than one acre in all areas of the Town designated as subject to the regulations adopted pursuant to the Chesapeake Bay Preservation Act, *Code of Virginia*, §62.1- 44.15:67, et seq.

Clean Water Act or CWA means the federal Clean Water Act (33 U.S.C. §1251, et seq.), formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483, and Public Law 97-117, or any subsequent revisions thereto.

Common plan of development or sale means a contiguous area where separate and distinct construction activities may be taking place at different times on different schedules.

Control measure means any best management practice or stormwater facility, or other method used to minimize the discharge of pollutants to state waters.

Department means the Virginia Department of EnvironmentalQuality.

Development means land disturbance and the resulting landform associated with the construction of residential, commercial, industrial, institutional, recreation, transportationor utility facilities or structures or the clearing of land for non-agricultural or non-silvicultural purposes.

General Permit means the state permit titled GENERAL PERMIT FOR DISCHARGESOF STORMWATER FROM CONSTRUCTION ACTIVITIES found at 9VAC25-880 et seq.

Land disturbance or *Land-disturbing activity* means, for the purpose of this article, a man-made change to the land surface that potentially changes its runoff characteristics including clearing, grading, or excavation except that the term shall not include the exemptions included in section 14-26-1658, below.

Land disturbing permit means an approval issued by the Administrator to conduct a land-disturbing activity in a combined sewer system area or an area >4,000 square feet in the MS4 area.

Layout means a conceptual drawing sufficient to provide for the specified stormwater management facilities required at the time of approval.

Minor modification means an amendment to an existing permit before its expiration not requiring extensive review and evaluation including, but not limited to, changes in EPA promulgated test protocols, increasing monitoring frequency requirements, changes in sampling locations, and changes to compliance dates within the overall compliance schedules. A minor permit modification or amendment does not substantially alter permit conditions, substantially increase or decrease the amount of surface water impacts, increase the size of the operation, or reduce the capacity of the facility to protect human health or the environment.

Municipal Separate Storm Sewer System (MS4) means a conveyance or system of conveyances that is:

- owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.,
- designed or used to collect or convey stormwater (e.g., storm drains, pipes, ditches),
- not a combined sewer, and
- not part of a sewage treatment plant, or publicly owned treatment works (POTW).

The Town of Dumfries is a regulated small MS4 that complies with DEQ's General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems.

Operator means the owner or operator of any facility or activity subject to regulation under this article.

Permit, Virginia Stormwater Management Program (VSMP) Permit, or VSMP Authority Permit means an approval to conduct a land-disturbing activity issued by the Administrator for the initiation of a land-disturbing activity after the Administrator has confirmed general permit coverage with the Department, whereapplicable.

Permittee means the person to whom a Permit is issued.

Person means any individual, corporation, partnership, association, state, municipality, commission, or political subdivision of a state, governmental body, including federal, state, or local entity as applicable, any interstate body or any other legalentity.

Regulations means the Virginia Stormwater Management Program (VSMP) Permit Regulations, 9VAC25-870-10, et seq., as they are amended from time totime.

Site means the land or water area where any facility or land-disturbing activity is physically located or conducted, including adjacent land used or preserved in connection with the facility or land-disturbing activity. Areas channelward of mean low water in tidal Virginia shall not be considered part of a site.

State means the Commonwealth of Virginia.

State Board means the Virginia State Water Control Board.

State permit or State General Permit or General Permit Coverage means an approval to conduct a land-disturbing activity issued by the State Board in the form of a state stormwater individual permit or coverage issued under a state general permit or an approval issued by the State Board for stormwater discharges from an MS4. Under these state permits, the Commonwealth imposes and enforces requirements pursuant to the federal Clean Water Act and regulations, the Virginia Stormwater Management Act and the Regulations.

State Water Control Law means Chapter 3.1 of Title 62.1 of the Code of Virginia, §62.1-44.2, et seq.

State waters means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

Stormwater means precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater management plan means a document(s) containing material which describes methods for complying with the requirements of this article.

Stormwater Pollution Prevention Plan or SWPPP means a document that is prepared in accordance with good engineering practices and that identifies potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the construction site, and otherwise meets the requirements of this chapter. In addition, the document shall identify and require the implementation of control measures, and shall include, but not be limited to the inclusion of or the incorporation by reference of, an approved erosion and sediment control plan, an approved stormwater management plan, and a pollution prevention plan.

Subdivision means a division, subdivision, or resubdivision of a lot, tract, or parcel of land situated wholly or partly within the corporate Town limits into three or more lots, tracts, or parcels of land for the purpose, whether immediate or in the future, of transferring ownership of any one or more of such lots, tracts, or parcels of land or for the purpose of the erection of buildings or other structures on any one or more of such lots, tracts, or parcels of land. The term "subdivision" shall not include a division of land for agricultural purposes in parcels of one acre or more, the average width of which is not less than 150 feet, when such division does not:

(1) Require the opening of any new street or the use of any new public easement of access;
(2) Obstruct or is not likely to obstruct natural drainage;
(3) Adversely affect or is not likely to adversely affect the establishment of any expressway, major street, primary highway, or toll road; or
(4) Adversely affect the execution or development of any plat or subdivision approved by the Town planning commission or otherwise adversely affect the orderly subdivision of contiguous property.

Total maximum daily load or *TMDL* means the sum of the individual wasteload allocations for

point sources, load allocations for nonpoint sources, natural background loading and a margin of safety. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. The TMDL process provides for point versus nonpoint source trade-offs. *Virginia Stormwater Management Act or Act* means a portion of Chapter 3.1 of Title 62.1 of the Code of Virginia, §62.1-44.15:24, et seq.

Virginia Stormwater BMP Clearinghouse website means a website that contains detailed design standards and specifications for control measures that may be used in Virginia to comply with the requirements of the Virginia Stormwater Management Act (Code of Virginia, §62.1-44.15:24, et seq.) and associated regulations.

Virginia Stormwater Management Program or VSMP means a program approved by State Water Control Board after September 13, 2011, that has been established by a locality to manage the quality and quantity of runoff resulting from land-disturbing activities and shall include local ordinances, rules, permit requirements, standards and specifications, policies and guidelines, technical materials, and requirements for plan review, inspection, and enforcement, where authorized by the Act, and evaluation consistent with the requirements of the Act and associated regulations.

Virginia Stormwater Management Program authority or VSMP authority means an authority approved by State Water Control Board after September 13, 2011, to operate a Virginia Stormwater Management Program. For purposes of this chapter, the Town is the VSMP authority.

II. ACRONYMS AND ABBREVIATIONS

ac	acre
BMP	Best Management Practice
CBPA	Chesapeake Bay Preservation Area
ChesBay	Chesapeake Bay
CPOD	Common Plan of Development
CWA	Clean Water Act
DPW	Department of Public Works
ESC	Erosion and Sediment Control
GP	General Permit
MS4	Municipal Separate Storm Sewer System
POD	Plan of Development
RLD	Responsible Land Disturber
RMA	Resource Management Areas
RPA	Resource Protection Area
DSMP	Dumfries Stormwater Management Program
SUMA	Stormwater Utility Maintenance Agreement
SWM	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TOD	Town of Dumfries
USACE	United States Army Corp of Engineers
VA DEQ	Virginia Department of Environmental Quality
VAC	Virginia Administrative Code
VSMP	Virginia Stormwater Management Program

Section 1
Program Overview

Section 1. Program Overview

I. PROGRAM INTRODUCTION

In order to establish a Virginia Stormwater Management Program (VSMP) per § 62.1-44.15:27 of the Code of Virginia, the Town of Dumfries (Town) has integrated the Town's stormwater management requirements with the Town's floodplain management requirements, erosion and sediment control program requirements, and Chesapeake Bay Preservation Act requirements into a unified stormwater program, as presented in Chapter 26 of the Town's Code of Ordinances, Articles II, III, IV, and V, respectively.

The unified Town-run program, the Dumfries Stormwater Management Program (hereafter referred to as the "Program"), is intended to administer, implement, and enforce the Virginia Stormwater Management Act to ensure the general health, safety, and welfare of the citizens of the Town and protect the quality and quantity of state waters from the potential harm of unmanaged stormwater. The Program includes provisions to protect unreasonable degradation of properties, water quality, stream channels and other natural resources from land disturbing activities; and establishes procedures whereby stormwater requirements related to water quality and quantity shall be administered and enforced. The Program is administered by the Town's Department of Public Works (DPW).

II. MANUAL PURPOSE

The purpose of this manual is to define the policies and procedures of the Program, such as the identification of responsible parties, descriptions of administrative processes, and record keeping protocol.

Specifically, as required by Virginia Administrative Code, 9VAC25-870-148, the policies and procedures documented in this manual include the following:

1. Identification of the authority accepting complete registration statements and of the authorities completing plan review, plan approval, inspection, and enforcement;
2. Submission and approval of Erosion and Sediment Control (ESC) plans in accordance with the Virginia Erosion and Sediment Control Law and attendant regulations and the submission and approval of stormwater management plans;
3. Requirements to ensure compliance with 9VAC25-870-54, 9VAC25-870-55, and 9VAC25-870-56;
4. Requirements for inspections and monitoring of construction activities by the operator for compliance with local ordinances;
5. Requirements for long-term inspection and maintenance of stormwater management facilities;
6. Collection, distribution to the state if required, and expenditure of fees;
7. Enforcement procedures and civil penalties where applicable;
8. Policies and procedures to obtain and release bonds, if applicable; and
9. Procedures for complying with the applicable reporting and recordkeeping requirements in 9VAC25-870-126.

III. PERMITTING AUTHORITY

Per Virginia Administrative Code, 9VAC25-870-148.A.1 listed above, and authorized by the Code of Virginia § 62.1-44.15:27 and the Town of Dumfries Code of Ordinances, Chapter 26, the purpose of the following section is to identify the authority accepting complete registration statements and the authorities completing plan review, plan approval, inspection, and enforcement:

A. Identification of the authority reviewing and approving plans:
DPW reviews and approves plans and issues land disturbance (E & S) and stormwater-related permits (LDIS). The DPW also provides additional review and Departmental approval of the following permit applications for compliance with Chesapeake Bay and floodplain requirements, as well as, erosion and sediment control and stormwater management, as applicable.

Planning and Development Review Division	**Permit**
Permits and Inspections	Trades (Gas Piping, Plumbing, etc.)
	Building
	Demolition
Land Use Administration	Conditional Use
	Plan of Development
	Special Use
	Zoning Change
	Subdivision

B. Identification of the authority accepting registration statements:
DPW accepts registration statements for General Permit coverage.

C. Identification of the authority conducting of inspections and enforcement functions: The DPW inspection staff inspects all VSMP, LDIS, and STRM-permitted construction projects within the Town to ensure they are constructed per the approved plans.

IV. LAND DISTURBING PERMIT APPLICABILITY

Because the whole Town is within a Chesapeake Bay Resource area, land disturbing activities within the Town greater than 2,500 square feet will require an LDIS permit issued by DPW. Additionally, the installation of stormwater infrastructure may require coverage under a STRM permit for LDIS-permitted activities.

Land disturbances >1ac require General Permit coverage. This permit coverage is processed through the Town. Additional permits for land disturbing activities may also be required by Federal and/or State agencies, depending on the activity.

Section 2
Permit Intake

Section 2. Permit Intake

I. REFERENCES:

- Dumfries Town Code Chapter 26-165.3
- Virginia Administrative Code § § 9VAC25-870-103, 9VAC25-870-108

II. PURPOSE

The purpose of this procedure is to document the permit application intake process for land disturbing activities. This procedure includes the review of the application for completeness, acceptance of the initial permit fee, and informing applicants the application is incomplete, if necessary.

III. KEY STAFF MEMBERS

DPW staff are responsible for permit intake procedures.

IV. PROCEDURE

A. Permit applications for land disturbing activities (LDIS) are received by DPW staff at the Permit Processing Center in Town Hall, either in person or via the mail.
B. Staff shall process applications in the order they are received.
C. Staff will check the parcel address via GIS online to determine if the project location is in a CBPA to ensure the proper permit application is received (LDIS).
D. A complete permit application shall include:
    1. A completed application on the most current Town-approved form;
    2. A complete set of plans to include ESC, civil, and stormwater information, as appropriate, as well as PPP, TMDL, floodplain, and CBPA requirements (when applicable);
    3. An electronic copy of the plans (.pdf);
    4. A completed DPW Environmental Plan Review checklist (included in Appendix A);
    5. A notarized affidavit of authorized sale of nutrient credits, if applicable; and
    6. A "Designation of Responsible Land Disturber" (RLD) form with a copy of the State-issued RLD certification, if available.
E. The applicant will pay the appropriate fee; refer to the Fee Schedule from the Town Code.
F. Once the application package is received, a plan number will be automatically generated via Permit Manager. This plan number will be included on all project correspondence. Note: once plans are approved, a separate permit number is generated.
G. Staff shall notify the applicant, in writing, within 15 days if it is determined that the application package is incomplete. If deemed incomplete, the written notification shall explain the reasoning of the determination. Where available to the applicant, electronic communication shall be considered 'communication in writing.' If staff does not make or communicate a determination of completeness within 15 calendar days, then the application shall be deemed complete.

H. Once the complete land disturbing permit application is received and verified; staff routes electronic copies of the plans to the necessary departments in electronic format with the applicable information:
    1. Zoning Department; and
    2. Board of Zoning Appeal (ONLY IF the parcel is owned by the Town).

I. No person shall begin to conduct any land-disturbing activity in the Town until all items listed above have been received, the appropriate fee has been submitted, and a written permit has been issued to the applicant. All land clearing, construction, disturbance, land development and drainage must be performed in accordance with the terms of the permit. Failure to comply may result in enforcement by the Town pursuant to Section 26-165.2 of the Town Code.

V. EXHIBITS

- DPW Environmental Plan Review Checklist

Section 3
Permit Issuance

3A. Permit Application Review Procedure

3B. Bond Intake, Release and Recordkeeping Procedures

3C. Stormwater Utility Maintenance Agreement (SUMA) Procedures

Section 3. Permit Issuance

3A. Permit Application Review Procedures

I. REFERENCES:

- Dumfries Town Code Chapter § 26-165.3
- Virginia Administrative Code § 9VAC25-870-54, 9VAC25-870-55, 9VAC25-870-56, 9VAC25-870-62, 9VAC25-870-63, 9VAC25-870-65, 9VAC25-870-66, 9VAC25-870-69, 9VAC25-870-72
- Virginia Erosion and Sediment Control Handbook

II. PURPOSE

The purpose of this procedure is to document permit application review and approval procedures.

III. KEY STAFF

DPW staff are responsible for review and approval of land disturbing and stormwater-related permit applications (LDIS). Further, all Permits and Inspections and Land Use Administration permits are reviewed for compliance with Chesapeake Bay and floodplain requirements, as well as, erosion and sediment control and stormwater management, as applicable.

IV. REQUIREMENTS

A. All requirements outlined in *Section 2. Permit Intake* must be met before application review begins.

B. No person shall begin to conduct any land-disturbing activity in the Town until the Town has received all items required in this process, the appropriate fee has been submitted and a written permit has been issued to the applicant. All land clearing, construction, disturbance, land development and drainage must be performed in accordance with the terms of the permit. Failure to comply may result in enforcement by the Town pursuant to Town Code 26-165.2.

C. Records pertaining to permit application review shall be kept in accordance with procedures described in *Section 7. File Management and Recordkeeping*.

V. PROCEDURE

A. Application Review Timeline.
   1. Staff shall have 60 calendar days from the date of the communication of completeness to review the application, except that if a determination of completeness is not made within 15 days (as described in *Section 2. Permit Intake*), then the application shall be deemed complete and staff shall have 60 calendar days from the date of submission to review the application.
   2. If staff disapproves the application, they shall communicate the decision writing to the applicant or his designated agent, providing the reasons for disapproval.
   3. Staff shall review any revised application within 45 calendar days of the resubmission.

B. Technical Review. DPW staff will complete a detailed technical review of the plans per the DPW Environmental Plan Review Checklist to ensure compliance with technical criteria and administrative requirements listed in the Town's Code of Ordinances and the Virginia Administrative Code.
   1. Stormwater Management (SWM) Plan: Staff will review the application for the technical criteria established in 9VAC25-870-55. Elements of the stormwater management plans that include activities regulated under Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.
   2. Erosion and Sediment (E&S) Control Plan: Staff will review the application for the technical criteria established in "Virginia Erosion and Sediment Control Regulations" (9VAC25-840) and the Virginia Erosion and Sediment Control Handbook. When the standards vary between the publications, the state regulations shall take precedence.
   3. Pollution Prevention Plan: The Pollution Prevention Plan, as part of the Stormwater Pollution Prevention Plan (SWPPP), is required for projects that qualify for General Permit coverage. Town staff will review it according to the regulatory requirements; however, it should be noted that the timeline listed in Section 3A.V. does not apply to this part of the approval process:
   4. Chesapeake Bay Site Plan: Staff will review the application for compliance with the Town's specific ordinance regulations related to the Chesapeake Bay (Dumfries Town Code Chapter 26 Article V). A Chesapeake Bay Site Plan is required as noted in Section 1.III Program Overview of this Procedures Manual.
   5. Floodplain Requirements: Staff will review the application for compliance with the Town's specific ordinance regulations related to the Floodplain requirements (Dumfries Town Code 26 Article V).

C. Inter-departmental/Inter-agency Review and Approval. Staff shall verify that all additional permit approvals are received prior to issuing the permit. Those permits include, but are not limited to:
   - United States Army Corp of Engineers (USACE) Permits
   - USACE Wetland Determinations
   - VA DEQ Stream Determinations
   - Town of Dumfries Parks & Recreations Approval
   - Approval letter from adjacent property owners for work on privately owned parcels
   - All building and trade permits

D. Revisions. If not approvable as submitted, staff will resend applications to the applicant for revision until the plans comply with all applicable regulations. Revised plans shall be reviewed within 45 days.

E. Application Approval. Once the application contains all of the necessary information and meets all of the appropriate technical criteria, staff will approve the application and communicate the decision in a written letter to the applicant or his approved agent.
   1. Staff will generate a permit and Permit Manager will automatically generate a permit number.
   2. Staff will stamp, date, approve, and distribute a final set of permits and plans accordingly:
      a) One set will be kept on file according to *Section 7. File Management and Recordkeeping*.
      b) One set will be for the Site inspector for use in completing all required inspections on site.
      c) One set will be given to the RLD/Contractor listed on the permit.

3. Staff will submit VPDES General Permit registration in an on-line DEQ database.
4. Staff will log BMP data into the Excel spreadsheet and Permit Manager.

F. Permitted Plan Revisions. Any revisions to an approved, permitted set of plans must be submitted through the permit intake office and all necessary revision fees paid. As appropriate, the applicant may send revisions to DEQ for record keeping. Once an application has been approved and a permit issued, the permittee shall only modify the associated plans under the following terms:
   1. When required by staff, and within a time prescribed by staff, to address any deficiencies noted during inspection.
   2. The permittee may change an approved E&S control plan when:
      a) The inspection reveals that the plan is inadequate to satisfy applicable regulations; or
      b) The person responsible for carrying out the 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 staff and the person responsible for carrying out the plans in the application.

VI. EXHIBITS

- DPW Environmental Plan Review Checklist

3B. Procedure for Bond Intake, Release, and Recordkeeping

I. REFERENCES

- Dumfries Town Code Chapter 26-165.15
- Virginia Administrative Code § 9VAC25-870-148

II. PURPOSE

The purpose of this procedure is to document the process for bond determination, intake, release, and recordkeeping. Staff determines, intakes, releases, and maintain records related to bonds for a LDIS permit. The Director of Public Works is responsible for final approval of the bond. The amount of the bond depends on the specifications of the project.

III. KEY STAFF MEMBERS

DPW staff are responsible for bond determination, intake, and release. The Director of Public Works is responsible for final bond approval. DPW staff are responsible for processing payments.

IV. REQUIREMENTS

A. Prior to issuance of any land disturbing permit, the applicant shall be required to submit a reasonable performance bond with surety, cash escrow, letter of credit, any combination thereof, or such other legal arrangement acceptable to the Town to ensure that measures could be taken by the Town at the applicant's expense should the applicant fail, after proper notice, within the time specified to initiate or maintain appropriate actions which may be required of the applicant by the permit conditions, requirements of the approved erosion and sediment control plan, or requirements relating to floodplain management or Chesapeake Bay Preservation Area, as a result of the applicant's land disturbing activity.

B. If the Town takes such action upon such failure by the applicant, the Town may collect from the applicant the difference should the amount of the reasonable cost of such action exceed the amount of the security held, if any.

V. PROCEDURE

A. Bond Determination.
   1. Once the erosion and sediment control and stormwater plans are approved as described in *Section 3A. Permit Application Review Procedures*, staff will determine an estimated bond amount using the most current bond excel spreadsheet, as presented in the Appendix.
   2. Once the estimated bond amount is determined, staff will notify the applicant of the bond amount owed.

B. Bond Payment and Approval
   1. The applicant pays the bond amount to DPW for processing.
   2. Three types of payment are accepted: a) letter of credit, b) surety, or c) check.

C. Bond Approval.
   1. Staff submits the bond the required Developer's Agreement (Town/Developer Erosion and Sediment Control Agreement, included in Appendix) to the Department of Public Works (DPW) for approval from the DPW Director.
   2. Once the DPW Director signs the Developer's Agreement the bond, DPW staff

assigns the bond a number and associates it with the permit.

3. DPW staff provides a copy of the bond information to the appropriate DPW staff.
4. DPW staff enters the information into permitManager.

D. Bond Release

1. Such bond, cash escrow or letter of credit, or the unexpended or un-obligated portion thereof, relating to erosion and sediment control obligations shall be either refunded to the applicant or terminated when the appropriate staff determines the following criteria are met:
   a. When at least 80% of the vegetation on the project or project section is established.
   b. Stormwater management facility as-builts have been submitted and are approved by DPW staff.
   c. DPW inspectors have completed a final inspection as described in *Section 4. Construction Inspection*.
2. The Administrator informs DPW staff that the bond can be released.
3. DPW will remit the check or cancelled surety bond to refund the bond to the permittee.

E. Bond Reduction. Bonds can be reduced as portions of a site are completed up to 50% or $30,000, whichever is greater, of the original bond amount. However, the replacement bond must be submitted prior to release of the original bond.

VI. EXHIBITS

- Bond Worksheet
- Town/Developer Erosion and Sediment Control Agreement

3C. Procedure for Processing Stormwater Utility Maintenance Agreements (SUMA)

I. REFERENCES:

- Dumfries Town Code Chapter 26-165
- Virginia Administrative Code § 9VAC25-870-112
- Non-Residential and Multi-Family Property Credit Manual (Town of Dumfries Department of Public Works (DPU), Stormwater Management Program) August 2013 (http://www.Dumfriesgov.com/dpu/StormwaterCredits.aspx)

II. POLICY AND PURPOSE

The purpose of this procedure is to document the intake and processing of Stormwater Utility Maintenance Agreements (SUMA). SUMAs provide the Town access to inspect and maintain BMPs as required by Virginia Administrative Code 9VAC25-870-112.

III. KEY STAFF MEMBERS

DPW Plan Reviewers and staff from the Town Attorney's office are the key staff members with responsibility for the intake and processing of SUMAs.

IV. REQUIREMENTS

A. A signed SUMA is required for a VSMP permit with approved stormwater management facility(ies) and fulfills the requirements listed in 9VAC25-870- 112.
B. A signed SUMA is required for receiving Stormwater credit for Non-Residential/ Multi-Family properties.

V. PROCEDURE

A. DPW prepares a draft SUMA and submits it to the applicant and logs the draft copy in the BMP database (with date and who it went to).
B. DPW staff reviews the returned SUMA for completeness and correctness. If incorrect, staff notifies the applicant in writing.
C. After the SUMA is determined to be correct and complete
    1. DPW staff updates the date in the BMP database and sends the original SUMA via the Director's office to the Town Attorney's office for recording at the Dumfries Town Circuit Court.
    2. The original recorded SUMA is filed in the Town Attorney's office; an electronic copy is sent to the DPW.
    3. DPW staff updates the BMP database with the Instrument # of the recorded SUMA.
    4. DPW staff files a hardcopy of the SUMA with the active permit at the central file.

VI. EXHIBITS

- Stormwater Utility Maintenance Agreement (SUMA) and SUMA Attachment A (Sample)

Section 4
Construction Inspection

Section 4. Construction Inspection

I. REFERENCES:

- Dumfries Town Code Chapter 26-165
- Virginia Administrative Code § 9VAC25-870-114

II. PURPOSE

The purpose of this procedure is to describe the process by which the Town inspects and monitors land disturbing activities during construction.

III. KEY STAFF MEMBERS

The key staff members with responsibility for this process are the Site Inspectors in the Public Works.

IV. REQUIREMENTS

A. The Town shall conduct construction inspections during and immediately following land- disturbing activities for:
   1. Compliance with the approved erosion and sediment control plan;
   2. Compliance with the approved stormwater management plan;
   3. Implementation of a pollution prevention plan;
   4. Implementation of an additional control measures necessary to address a Total Maximum Daily Load (TMDL); and
   5. Compliance with the approved Chesapeake Bay Site Plan, as appropriate.

B. The Administrator is authorized to require, and a permittee shall furnish, when requested, any application materials, plans, specifications, and other pertinent information as may be necessary to determine the effect of the discharge on the quality of state waters.

C. On-going VSMP land-disturbing activities must be inspected quarterly and at least once before the final inspection to ensure compliance with the permit. All other Land Disturbing Permit activities are inspected every two weeks and/or within 48 hours after a runoff producing event.

D. Erosion and Sediment control (ESC) inspections are dictated by the ESC ordinance.

E. Stormwater management inspections are conducted after installation of a stormwater maintenance facility. If the stormwater management facility is below grade, inspection shall occur before surface material is backfilled, as well as one final inspection.

F. The permittee shall permit the Administrator to conduct inspections at reasonable times and under reasonable circumstances.

G. As-built construction record drawings shall be submitted prior to final inspections.

V. PROCEDURE

A. Pre-Construction Meeting
   1. Before any land disturbing activities can begin and before the initial construction inspection, the inspector and the permittee must hold a preconstruction meeting.
   2. The permittee must contact their assigned DPW inspector to schedule the preconstruction meeting.

B. Regular Inspections
   1. Prior to the inspection, the inspector will review the approved plans.
   2. During the inspection, the inspector will meet with the permittee or his designee and inspect the site for:
      a. Compliance with the approved erosion and sediment control (ESC) plan;
      b. Compliance with the approved stormwater management plan;
      c. Development, updating, and implementation of a pollution prevention plan;
      d. Development and implementation of any additional control measures necessary to address a Total Maximum Daily Load (TMDL);
      e. Chesapeake Bay Site Plans; and
      f. Floodplain requirements
   3. Using the Construction Inspection checklist, the inspector will record any violations that appear on the site. A notice to comply will be given, including a list of all violations and the date by which the violations must be corrected.
   4. If approved, the inspector will release a written copy of the Inspection report.
   5. The inspector will file a copy to be included with permit through Permit Manager (for more on record-keeping, see *Section 7. File Management and Recordkeeping)*.

C. Reinspection
   1. If the inspector found the site to be out of compliance during inspection, a reinspection will be required to inspect for compliance. This will occur once the permittee has met the corrective actions and paid the reinspection fee as required by their violation. For more information on corrective actions and enforcements, refer to *Section 5. Enforcement*.
   2. The permittee or operator of a land-disturbing activity will request their re-inspection via email or USPS mail.
   3. After the request, the inspection will be scheduled through the Permit Manager software program, and the permittee will be notified.
   4. Upon reinspection, the inspector will check the site for corrections of the previously noted violations and any new violations. A new construction inspection report will be used to document the reinspection.
   5. Should the correction be incomplete or more violations noted, another notice to comply or a Notice of Violation shall be given. If the violations are severe enough or the continued re-inspections are ignored, a stop work order may be issued and construction shall cease until the violations are corrected.
   6. If the Administrator determines that there is a failure to comply with the all notices to comply to correct violations or any other part of the Program, the Administrator may initiate such informal and/or formal administrative enforcement procedures per *Section 5. Enforcement.*

D. Requested Inspections
   1. The permittee or operator of a land-disturbing activity may request on- going construction inspections via telephone through Public Works staff.
   2. After the online request, the inspection will be scheduled automatically through the Permit Manager software program and the permittee will be notified.

E. Final Inspection
   1. After the land disturbing activities are complete, the inspector must complete an

inspection to ensure that the permittee is meeting the requirements of their permit.

2. The RLD, permittee, or landowner of a land-disturbing activity will request their final DPW inspection via phone or email both are listed on the Town's website.
3. The inspection must be requested at least 24 hours prior to the date of the required inspection.
4. Prior to the inspection, the inspector will review the approved plans and record drawings.
5. During the inspection, the inspector will meet with the permittee, or his designee, and inspect the site for:
   a. Compliance with the approved erosion and sediment control plan and site stabilization;
   b. Compliance with the approved stormwater management plan;
   c. Completion of a pollution prevention plan;
   d. Implementation of any additional control measures necessary to address a TMDL; and
   e. Chesapeake Bay Site Plan Requirements.
6. Using the attached Construction Inspection checklist, the inspector will record if the permittee is approved or disapproved in meeting compliance with the above measures.
7. If approved, the inspector will release a written copy of the Inspection report.
8. If not approved, or if the permittee failed to appear, the inspector will release the inspection report through the process outlined in *Section 5. Enforcement*.
9. The inspector will file a copy to be included with permit in the central file system (for more on record-keeping, refer to *Section 7. File Management and Recordkeeping*).
10. If a reinspection is required, follow the procedures for reinspection above.

VI. EXHIBITS

- Construction Final Inspection Checklist

Section 5 Enforcement

5A. Serving and Documenting Enforcement Measures

5B. Hearings

5C. Appeals

Section 5. Enforcement

5A. Serving and Documenting Enforcement Measures

I. REFERENCES:

- Dumfries Town Code Chapter 26-165
- Virginia Erosion and Sediment Control Handbook
- Virginia Administrative Code § §9VAC25-870-148; 9VAC25-870-116
- § 62.1-44.15:48 of the Code of Virginia

II. PURPOSE

The Town inspects and monitors permitted land disturbing projects in the Town. Permittees, or their designee, must attend inspections and may be found to not be in compliance if inspections are missed.

If violations are found or the permittee is otherwise determined not in compliance with the conditions of their permit, the Town will serve and document informal and formal enforcement measures. The purpose of this procedure is to document the process of serving and documenting these enforcement measures including:

A. Issuing verbal warning and inspection reports;
B. Issuing notice of corrective action;
C. Issuing notice to comply;
D. Issuing consent special order and civil charges;
E. Issuing fines to offenders; and
F. Issuing civil and criminal judicial procedures.

This procedure also documents the process for scheduling follow up inspections and ceasing violations. Inspections and violations are scheduled and tracked according to *Section 4. Construction Inspection*, and a record of inspection reports and violations are recorded for active permits in the central file system according to *Section 7. File Management and Recordkeeping*.

III. KEY STAFF

Site Inspectors of the DPW are the key staff responsible for serving and documenting enforcement measures, as agents of the Administrator.

IV. REQUIREMENTS

A. The Town shall develop policies and procedures that outline the steps to be taken regarding enforcement actions under the Stormwater Management Act and attendant regulations and local ordinances.

B. Pursuant to § 62.1-44.15:48 of the Code of Virginia, the Town has the discretion to impose a maximum penalty which may reflect the degree of harm caused by the violation and take into account the economic benefit to the violator from noncompliance. Violations include, but are not limited to:

1. No General Permit registration;
2. No Stormwater Pollution Prevention Plan (SWPPP);
3. Incomplete SWPPP;
4. SWPPP not available for review;
5. No approved erosion and sediment control plan;
6. Failure to install stormwater BMPs or erosion and sediment controls;
7. Stormwater BMPs or erosion and sediment controls improperly installed or maintained;
8. Operational deficiencies;
9. Failure to conduct required inspections;
10. Incomplete, improper, or missed inspections; and/or
11. Discharges not in compliance with the requirements of the General Permit.

V. PROCEDURE

I. Overview of Process
   1. If the inspector determines that there is a failure to comply with their land disturbing permit, or determines that there is an unauthorized discharge, the inspector shall serve notice upon the permittee, operator or person responsible for carrying out the permit conditions by any of the following:
      a. Verbal warnings and inspection reports,
      b. Notices of corrective action,
      c. Consent special orders, and notices to comply.

II. Issuing Inspection Reports / Notice of Corrective Action
   1. Verbal warnings are given at the time of inspection, and may be followed up with a written Notice of Corrective Action. In the written notice, the inspector shall prepare an inspection report which specifies the non-compliance and the measures needed to comply with the permit conditions and shall specify the time within which such measures shall be completed.
   2. Inspectors will serve Notice of Corrective Actions by registered or certified mail to the address specified in the permit application, or by delivery at the site of the development activities to the agent or employee supervising such activities. In the event that the report must be faxed to the responsible party, a copy of the transmittal report shall be attached to the file copy of the Inspection Report and Town staff shall telephone the responsible party to verify receipt.
   3. Upon receipt of the written notice, it should be signed by the responsible party to document receipt of the report. Staff will file a copy of the report in the central file.

III. Failure to Respond to Written Notice
   1. If there is a failure to respond to the Inspection Report / Notice of Corrective Action, the inspector shall issue a Notice to Comply and shall specify in this Notice to Comply that the corrective action must be completed within three working days or a Stop Work Order may be issued. For E&S Control violations, a Notice to Comply shall be issued immediately by the inspector if the required action(s), as documented in the Inspection Report, has not been executed within seven working days.
   2. If the permittee fails to comply or ensure that a responsible party complies within the time specified, the inspector acting as an agent of the Administrator is authorized to:
      a. Issue a stop work order,
      b. Revoke the permit, or,
      c. Pursue additional enforcement measures.

d. This document shall be delivered to and signed by the responsible party and the inspector will track and process this notice.

IV. Stop Work Order
1. An inspector, acting as an agent of the Administrator, issues a stop work order to the permittee by certified mail, return receipt requested, sent to the address specified in the land records of the locality, or by personal delivery.
2. The stop work order is effective upon service on the permittee.
3. For ESC violations, if the corrective action is not commenced with 24 hours of the stop work order, legal action may be taken by the Town. In doing so, the land disturbance (LDIS) permit shall be revoked.
4. If the inspector issues a stop work order, the permittee shall cease or ensure that all land-disturbing activities cease until the inspector confirms in writing that:
   a. The permit violation(s) has ceased, and/or
   b. An approved plan and required permits have been obtained, and/or
   c. Specified corrective measure(s) have been completed.
5. Determining the permit violation(s) has ceased:
   a. The permittee will perform corrective actions and will request a re-inspection via email or phone.
   b. The inspector will re-inspect the project and record on the inspections report that the violation(s) have been corrected.
   c. The inspector will record this in the Permit Manager system and will give a copy to permittee. Staff will file a copy of the inspection report for the central file system.
6. If an approved plan and required permits have not been obtained prior to a Stop Work Order:
   a. The permittee will submit an application for the required permit.
   b. DPW staff will review submitted plans according to *Section 3A. Permit Application Review Procedures*.
7. Revoke the Permit
   a. If legal action commences, an agent of the Administrator will revoke the permit.

V. Issuance of an Emergency Order to Cease Work
1. The Administrator is authorized if, in the Administrator's discretion any violation is adversely affecting, or presents an imminent and substantial danger of causing harmful erosion of lands or sediment deposition in waters within, the watersheds of the Commonwealth, or otherwise causing a substantial impact to water quality, to issue the permittee or other appropriate person, without advance notice or hearing, an emergency order directing such person to cease immediately all land- disturbing activities on the site.
   a. The Administrator will determine if a violation requires an emergency order to cease land disturbing activities by reviewing results of an inspection or complaint.
   b. This emergency order is issued by the Administrator.
   c. The Administrator shall provide an opportunity for a hearing, after reasonable notice as to the time and place thereof, to a permittee, in order to determine whether to affirm, modify, amend, or cancel such emergency order. Refer to *Section 5B. Hearings* for further detail.

VI. Issuance of a Consent Special Orders and Civil Charges

1. The Administrator shall issue consent special orders pursuant to any person subject to a land disturbance permit who the Administrator determines is/has:
   a. Permitting or causing the unreasonable degradation of properties, water quality, stream channels, and other natural resources to cease and desist from such activities;
   b. Failed to construct facilities in accordance with final approved plans and specifications to construct such facilities;
   c. Violated a permit issued by the Town;
   d. Failed to comply with any decision of the Administrator or Town; or
   e. Violated the terms of any order issued by the Administrator, or the Town.
2. The Administrator may determinate the permittee has these failures to comply during an inspection or review of an inspection.
3. The Administrator shall issue such special orders, including procedures for public notice and comment, unless issued as an emergency order consistent with V. above.
4. In a consent special order, the Administrator shall order the person to comply with the terms of the order, as well as any provision of this article or decision by the Administrator or Town.
5. Special orders may include, with the consent of the person subject to the order, a civil charge for violations of the requirements listed above. Any person violating or failing, neglecting, or refusing to obey any rule, regulation, ordinance, order, or any permit condition issued by the Administrator may be compelled in a proceeding instituted in any appropriate court by the Town to obey same and to comply therewith by injunction, mandamus or other appropriate remedy.
6. These special consent orders and civil charges are tracked by an agent of the Administrator.
7. These special consent orders and civil charges can be ceased.

VII. Issuance of Fines to Offenders

1. The Administrator may subject any person who fails, neglects or refuses to comply with any order of the Administrator or Town, to a civil penalty not to exceed $32,500 for each violation within the discretion of the court.
   a. Each day of violation of each requirement shall constitute a separate offense.
2. The Administrator determines fines.
3. The Administrator issues fines to offenders.
4. The Town may issue a summons for the collection of the civil penalty and the action may be prosecuted in the appropriate court.
5. Once the permittee pays the fine and resolves deficiencies to the written satisfaction of the Administrator, the violation can cease and work can resume.

VIII. Issuing Civil and Criminal Judicial Procedures

1. If deficiencies are not remedied through any other civil or equitable remedy as provided above, any person who willfully or negligently violates any provision of the permit-related article, any order of the Administrator, any condition of a permit, or any order of a court shall be guilty of a misdemeanor punishable by confinement in jail for not more than 12 months or a fine of not less than $2,500 nor more than $32,500, either, or both.

VI. EXHIBITS

- E&S Control Procedure for Enforcement

5B. Hearings

I. REFERENCES:

- Dumfries Town Code Chapter 26-165.11

II. PURPOSE

Permit applicants or permittees aggrieved by inaction or action of the Administrator may demand in writing a formal hearing in accordance with Town Code. The purpose of this procedure is to document the Town's response to and documentation of these hearings.

III. KEY STAFF

The key staff responsible for this procedure are the Town Council and its designated board, as well as support from Site Inspectors and administrative program management analysts in the Public Works (DPW).

IV. REQUIREMENTS

A. Any permit applicant or permittee that is aggrieved by any action of the Administrator taken without a formal hearing may demand in writing a formal hearing, provided such demand is filed within 30 days after notice of such action is given by the Administrator.

B. Any permit applicant or permittee that is aggrieved by the inaction of the Administrator may request in writing that a certain action be taken. If the action is not taken by the Administrator within 15 days after the request is sent, the permit applicant, permittee, or other person subject to the requirements of this article that is aggrieved by the inaction of the Administrator may demand in writing a formal hearing, provided such demand is filed within 30 days after the request is sent.

C. The Administrator shall provide an opportunity for a hearing, after reasonable notice as to the time and place thereof, to a permittee, in order to determine whether to affirm, modify, amend, or cancel such emergency order. The Administrator is authorized if, in the Administrator's discretion, any such violation is grossly affecting or presents an imminent and substantial danger of causing harmful erosion of lands or sediment deposition in waters within the watersheds of the Commonwealth or otherwise substantially impacting water quality, to issue, without advance notice or hearing, an emergency order directing such person to cease immediately all land- disturbing activities on the site.

V. PROCEDURE

A. Appointing the Hearing
If a request for a hearing is received by the Administrator as noted in Section III.B. of this procedure:

1. A board will be established and appointed by Town council by separate ordinance to conduct a hearing.
    a. Any member of the board shall have power to issue subpoenas and subpoenas duces tecum, and at the request of any party shall issue such subpoenas.
    b. The failure of a witness without legal excuse to appear or to testify or to produce documents shall be acted upon by majority vote of the board, which action may include the procurement of an order of enforcement from the circuit court.

Witnesses who are subpoenaed shall receive the same fees and reimbursement for mileage as in civil actions.

2. A time and place for the hearing will be set by the board within its discretion.
3. The board will communicate the time and place for the hearing to the permittee.

B. Recordkeeping for the Hearing

1. The board shall take a verbatim record of the proceedings of such hearings and file them with Town council.
2. Depositions may be taken by the board and read as in actions at law.
3. Decisions rendered during the hearing will be submitted to the appropriate parties by the Administrator. When appropriate, violations and emergency orders so that land disturbing activities can be resumed by the permittee.
4. The board will also file a copy of the record of the proceedings for the pertinent permit plan with the central file system.

5C. Appeals

I. REFERENCES:

- Dumfries Town Code Chapter 26-165.12

II. PURPOSE

Permit applicant or permittees aggrieved by the issuance or non-issuance of a permit or an enforcement decision by the Administrator may request an appeal of the decision in accordance with Town Code. The purpose of this procedure is to document the Town's response and documentation of these appeals.

III. KEY STAFF

The Town's Chief Administrative Officer (CAO) and the Administrator are responsible for this procedure.

IV. REQUIREMENTS

A. Any permit applicant, permittee who is aggrieved by the issuance or non-issuance of a permit or an enforcement decision by the Administrator, or any person who has participated, in person or by submittal of written comments, in the public comment process related to a final decision of the Administrator to issue a permit, mayrequest an appeal of the decision. Such appeal shall be filed by the appellant within 30 days from the date of the action with the Town's CAO.

V. PROCEDURE

A. Within 15 days of the date on which the appellant files as specified in Section III.A. of this procedure, the CAO shall schedule a hearing thereon at which both the appellant and the Administrator may be heard.
   1. Such hearing shall be scheduled no sooner than 30 days after the CAO furnishes the appellant and the Administrator with written notice of the date, time and location of the hearing.

B. The CAO shall review the evidence and arguments by both the appellant and the Administrator. Such evidence and arguments may be submitted in writing prior to the hearing or presented during the hearing.

C. No later than 15 days after the hearing, the chief administrative officer shall issueto the appellant and the Administrator a written decision affirming, reversing or modifying the action of the Administrator.

D. The Administrator will take the appropriate action to implement and document the hearing decision.

Section 6
Post Construction Activities

6A. Maintenance of Town-Owned Stormwater Management Facilities

6B. Maintenance of Privately Owned Stormwater Management Facilities

Section 6. Post Construction Activities

6A. Maintenance of Town-Owned Stormwater Management Facilities

I. REFERENCES:

- Dumfries Town Code Chapter 26-165.9
- Virginia Administrative Code § 9VAC25-870-112

II. POLICY AND PURPOSE

To properly manage the quality and quantity of stormwater runoff, stormwater facilities must be inspected and maintained after construction. In accordance with the Virginia Administrative Code § 9VAC25-870-112 and the Town of Dumfries's Municipal Separate Storm Sewer Permit (MS4) program requirements, the Town has established an inspection and maintenance program that ensures Town-owned stormwater management facilities are being adequately maintained.

The purpose of this procedure is to document how the Town inspects and maintains stormwater facilities owned by the Town.

III. KEY STAFF

DPW staff is responsible for the inspection of all Town-owned stormwater management facilities. The Stormwater Maintenance Division maintains all Town-owned stormwater management facilities.

IV. REQUIREMENTS

1. Each Town-owned stormwater management facility must be inspected by the Town at least once every five years
2. The results of each inspection must be documented.
3. Stormwater facilities that are receiving credit for Total Maximum Daily Load (TMDL) compliance must be inspected once every permit term for condition (three to five years) and verified for pollutant removal once every other permit term (nine to ten years).
4. All inspection requirements listed on the corresponding checklists are taken directly from the requirements listed for each type of stormwater facility on the BMP clearinghouse website.

V. PROCEDURE

A. Stormwater Facility Inspection
   1. DPW maintains a list of all stormwater facilities in an excel spreadsheet.
   2. DPW shall provide an updated stormwater facility spreadsheet to the SMD on an annual basis.
   3. All Town owned stormwater facilities are inspected annually by the DPW based on the date they were put online.
   4. Inspections are completed using the inspection requirements listed on the corresponding checklists.

5. A hard copy of the inspection report is kept on file in the central filing system.
6. All inspection dates are logged into a spreadsheet in the central file system.
7. The DPW inspector sends an email to the SMD when maintenance is required for a specific stormwater facility.

B. Stormwater Facility Maintenance
   1. The SMD performs maintenance on the stormwater facilities using the inspection checklists on the Town's website.
   2. The SMD will perform regular, routine maintenance such as grass cutting and weeding on Town owned stormwater facilities
   3. The SMD will also perform specific maintenance on an as-needed basis if field observation warrant, such as clogged orifices.

C. Training
   1. The SMD and DPW Inspectors will participate in third-party or state sponsored training events to keep updated on best practices for proper maintenance of proprietary and manufactured stormwater facilities.

VI. EXHIBITS

- BMP Inspection Checklists

6B. Maintenance of Privately-Owned Stormwater Management Facilities

I. REFERENCES:

- Dumfries Town Code Chapter 26-165.9
- Virginia Administrative Code §§ 9VAC25-870-112

II. POLICY AND PURPOSE

To properly manage the quality and quantity of stormwater runoff, stormwater facilities must be inspected and maintained after construction. In accordance with the Virginia Administrative Code § 9VAC25-870-112 and the Town of Dumfries's Municipal Separate Storm Sewer Permit (MS4) program requirements, the Town has established an inspection and maintenance program that ensures privately-owned stormwater management facilities are being adequately maintained.

The purpose of this procedure is to document he Town's requirements for inspection and maintenance of stormwater facilities owned by private land owners.

III. KEY PERSONNEL

Owners of privately-owned stormwater facilities (owners), those who maintain such facilities, and the Public Works (DPW) Site Supervisor are the key personnel in this procedure.

The Stormwater Maintenance Division will maintain privately owned stormwater facilities as an enforcement measure if the Stormwater Utility Maintenance Agreement (SUMA) is not upheld.

IV. REQUIREMENTS

1. Each stormwater facility must be inspected at least once every five years
2. The results of each inspection must be documented.
3. Permitted stormwater facilities that are receiving credit for full pollutant removal for Total Maximum Daily Load (TMDL) compliance must be inspected once every permit term for condition (three to five years) and verified for pollutant removal once every other permit term (nine to ten years).
4. A recorded SUMA for each privately-owned stormwater facility must be on file in the central filing system.
5. All inspection requirements listed from on the corresponding checklists are taken directly from the requirements listed for each type of stormwater facility on the BMP clearinghouse website.
6. Inspection results must be submitted to the DPW Site Supervisor.

V. PROCEDURE

A. Stormwater Facility Inspection
   1. DPW maintains a list of all stormwater facilities in an excel spreadsheet.
   2. All stormwater facilities need to be inspected once per five years.
   3. Inspections are completed using the inspection requirements listed on the

corresponding checklists.

4. For privately owned stormwater facilities where homeowners want to receive credit, an inspection must be done annually using the same checklist.
5. Owners must submit the results of stormwater facility inspections to the DPW Site Supervisor.
6. The DPW Site Supervisor keeps electronic copies of submitted inspection reports.
7. The DPW Site Supervisor logs all inspection dates into a spreadsheet.
8. The DPW Site Supervisor notifies owners if any of their stormwater facilities are overdue for an inspection.

B. Stormwater Facility Maintenance

1. Owners are required to maintain their stormwater facilities if any deficiencies are noted during a regular inspection.
2. Owners are required to perform maintenance on their stormwater facilities using the inspection checklists on the Town's website.
3. Owners will also perform regular, routine maintenance such as grass cutting and weeding on their stormwater facilities.
4. Owners are required to submit documentation of maintenance efforts to the DPW Site Supervisor.
5. The DPW Site Supervisor will log all maintenance into a spreadsheet.

C. Training

1. Owners of stormwater facilities and those who maintain those facilities are encouraged to participate in third-party or state sponsored training events to keep updated on best practices for proper maintenance of proprietary and non-proprietary stormwater facilities.

VI. EXHIBITS

- BMP Inspection Checklists

Section 7
File Management and Record Keeping

Section 7. File Management and Recordkeeping

I. REFERENCES:

- Virginia Administrative Code §§ 9VAC25-870-148; 9VAC25-870-126

II. PURPOSE

The purpose of this procedure is to document the internal processes and technologies used by the Public Works (DPW) to meet the requirements for record keeping associated with land disturbing permits. The requirements for different permit coverages for land disturbing projects are described previously.

III. KEY STAFF MEMBERS

The key staff members with responsibility for this process are the Administrative Program Support Assistants of the DPW.

IV. REQUIREMENTS

According to Virginia Administrative Code 9VAC25-870-126, VSMP authorities shall keep records in accordance with the following:

A. Project records, including approved stormwater management plans, shall be kept for at least three years after state permit termination or project completion.
B. Stormwater management facility inspection records shall be documented and retained for at least five years from the date of inspection.
C. Construction record drawings shall be maintained in perpetuity or until a stormwater management facility is removed.
D. All registration statements submitted in accordance with 9VAC25-870-59 shall be documented and retained for at least three years from the date of project completion or state permit termination.

The Town of Dumfries has the following internal requirements:

A. At least one hardcopy of all approved plans shall be kept on file within the DPW. A copy of the original permit shall also be kept along with the file.
B. When only temporary ESC plans are necessary for a project, plans shall be kept for 10 years.
C. All Chesapeake Bay Site Plans with proposed Best Management Practices (BMPs) and stormwater drainage plans shall be kept in perpetuity.

V. PROCEDURE

A. Active Permit Files:

1. Plans received for review in paper form should be stored by staff in a folder and stored as a hardcopy in the central files. If plans are only received electronically, staff should store them on DPU's server, and print a hardcopy to store in the central files.
2. Staff should ensure plans are labeled with the building permit address, street address, plan/permit number, name of project or subdivision (if applicable), and the

RLD's name.

3. After plans have been approved by the staff (Refer to *Section 3. Permit Issuance*) staff should move the plans to the active central filing system. After the review is complete and the permit has been issued, and staff will update the folder/ system with the following information:
   a. The original set of approved stamped civil plans.
   b. A copy of the approved issued permit
   c. A completed Designation of RLD form.
   d. The bond agreement with a copy of the payment and log number issued by the Department of Public Works.
   e. Anny correspondence mailed/emailed to the engineer/owner concerning comments/revisions to the plans.
   f. Copies of any additional related permits required by external government agencies.
   g. Design report including models and/or calculations, where appropriate.
   h. Any letters/reports or determinations submitted for Chesapeake Bay Compliance
   i. Any specifications for proposed best management practices.
   j. All inspection reports.
   k. SUMA
   l. Nutrient credit documentation, if applicable.

B. Construction Inspection Reports

Preconstruction and construction inspection reports are tracked and scheduled through the Permit Manager system.

1. After the preconstruction inspection is complete, staff will receive notification through the Permit Manager system, and will update the plan's record at the central file with a hardcopy of the inspection report.
2. After the construction inspection is complete, the staff will receive notification through the Permit Manager system, and will update the plan's record at the central file with a hardcopy of the inspection report.

C. Post Construction Inspection Reports

Post construction inspection reports will follow the most current MS4 permit requirements and BMP information is tracked in the BMP spreadsheet.

1. After the post construction inspection is complete, staff will update the BMP information in BMP spreadsheet and a hardcopy of the post construction inspection report is kept in the central file.

D. Inactive Permit Files

1. When the project has been completed, the staff will move the plans to the closed central file.
2. A project is considered complete when the final inspection is complete and the bond payment has been released.
3. Only the following information is necessary to retain in the closed central file:
   a. Inspection reports
   b. Original approved plans
   c. Hydraulic modeling/calculations/computations
   d. Approved permits
   e. Post BMP inspections

f. Wetland/Stream determinations

4. Projects that are abandoned or cancelled may also be considered inactive, with identical file management requirements. The determination that a project has been abandoned or cancelled should be based on written notification from the applicant.

Appendix A - Attachments

APPENDIX F

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

October 31, 2018

Robert Ritter
Town Manager
17755 Main Street
Dumfries, VA 22026

Transmitted electronically: Robert Ritter via (rritter@dumfriesva.gov)

Re: General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems General Permit Number VAR040117, Town of Dumfries

Dear Permittee:

Department staff has reviewed your Registration Statement and determined that the referenced Municipal Storm Sewer System (MS4) is hereby covered under the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems. The effective date of your coverage under this general permit is November 1, 2018, or the date of this letter, whichever is later. The enclosed copy of the general permit contains the applicable reporting requirements and other conditions of coverage.

Please submit future permit correspondence and your annual MS4 program reports to Anna Tuthill of the DEQ Northern Regional Office at anna.tuthill@deq.virginia.gov . The general permit will expire on October 31, 2023. The conditions of the permit require that you submit a new registration statement on or before August 3, 2023 if you wish to have continued coverage under the general permit.

If you have any questions about this letter or the general permit, please contact Anna Tuthill at (703) 583 -3837 or anna.tuthill@deq.virginia.gov .

Sincerely,
Allan Brockenbrough II, P.E.

Allan Brockenbrough II

Manager, Office of VPDES Permits

Enc. General Permit VAR040117
Cc: Greg Tkac, Town of Dumfries
Anna Tuthill, DEQ

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

General Permit No.: VAR040117

Effective Date: November 1, 2018
Expiration Date: October 31, 2023

GENERAL VPDES PERMIT FOR DISCHARGES OF STORMWATER FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

AUTHORIZATION TO DISCHARGE UNDER THE VIRGINIA STORMWATER MANAGEMENT PROGRAM REGULATIONS, VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM REGULATIONS, AND THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act, as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, permittees of small municipal separate storm sewer systems are 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, this cover page, Part I - Discharge Authorization and Special Conditions, Part II - TMDL Special Conditions, and Part III - Conditions Applicable to All State and VPDES Permits, as set forth in this general permit.

Part I
Discharge Authorization and Special Conditions

A. Coverage under this state permit. During the period beginning with the date of coverage under this general permit and lasting until the expiration and reissuance of this state permit, the permittee is authorized to discharge stormwater and those authorized nonstormwater discharges described in 9VAC25-890-20 D in accordance with this state permit from the small municipal separate storm sewer system identified in the registration statement into surface waters within the boundaries of the Commonwealth of Virginia and consistent with 9VAC25-890-30.

B. The permittee shall develop, implement, and enforce a MS4 program designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP) in accordance with this permit, to protect water quality, and to satisfy the appropriate water quality requirements of the State Water Control Law and its attendant regulations. The permittee shall utilize the legal authority provided by the laws and regulations of the Commonwealth of Virginia to control discharges to and from the MS4. This legal authority may be a combination of statute, ordinance, permit, policy, specific contract language, order, or interjurisdictional agreements. The MS4 program shall include the minimum control measures (MCM) described in Part I E. For the purposes of this permit term, implementation of MCMs in Part I E and the Chesapeake Bay and local TMDL requirements in Part II (as applicable) consistent with the provisions of an iterative MS4 program required pursuant to this general permit constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable," provides adequate progress in meeting water quality standards, and satisfies the appropriate water quality requirements of the State Water Control Law and its attendant regulations.

C. The MS4 program plan.

1. The MS4 program plan shall include, at a minimum, the following written items:

   a. The roles and responsibilities of each of the permittee's divisions and departments in the implementation of the requirements of the permit tasked with ensuring that the permit requirements are met;

   b. If the permittee utilizes another entity to implement portions of the MS4 program, a copy of the written agreement. The description of each party's roles and responsibilities, including any written agreements with third parties, shall be updated as necessary;

   c. For each MCM in Part I E, the following information shall be included:

      (1) Each specific requirement as listed in Part I E for each MCM;

      (2) A description of the BMPs or strategies that the permittee anticipates will be implemented to demonstrate compliance with the permit conditions in Part I E;

(3) All standard operating procedures or policies necessary to implement the BMPs;

(4) The measurable goal by which each BMP or strategy will be evaluated; and

(5) The persons, positions, or departments responsible for implementing each BMP or strategy; and

d. A list of documents incorporated by reference including the version and date of the document being incorporated.

2. If the permittee is receiving initial coverage under this general VPDES permit for the discharge of stormwater, the permittee shall:

   a. No later than six months following the date of permit coverage, submit to the department a schedule for the development of each component of the MS4 program plan in accordance with Part I C 1 that does not exceed the expiration date of this permit; and

   b. Provide to the department a copy of the MS4 program plan upon completion of development.

3. If the permittee was previously covered under the General VPDES Permit for the Discharge of Stormwater from MS4 effective July 1, 2013, the permittee shall update the MS4 program plan to meet the requirements of this permit no later than six months after the effective date of this permit unless otherwise specified in another permit condition and shall post the most up-to-date version of MS4 program plan on the permittee's website or location where the MS4 program plan can be obtained as required by Part I E 2 within 30 days of updating the MS4 program plan. Until such time that the MS4 program plan is updated in accordance with Part I E, the permittee shall continue to implement the MS4 program plan in effect at the time that coverage is issued under this general permit.

4. Revisions to the MS4 program plan are expected throughout the life of this permit as part of the iterative process to reduce pollutant loading and protect water quality to the MEP. As such, revisions made in accordance with this permit as a result of the iterative process do not require modification of this permit. The permittee shall summarize revisions to the MS4 program plan as part of the annual report as described in Part I D 2.

5. The permittee may demonstrate compliance with one or more MCM in Part I E through implementation of separate statutory or regulatory programs provided that the permittee's MS4 program identifies and fully describes any program that will be used to satisfy one or more of the minimum control measures of Part I E. If the program that the permittee is using requires the approval of a third party, the program shall be fully approved by the third party, or the permittee shall be working toward getting full approval. Documentation of the program's approval status, or the progress toward achieving full approval, shall be included in the annual report required by

Part I D. The permittee shall remain responsible for compliance with the permit requirements if the other entity fails to implement one or more components of the control measures.

6. The permittee may rely on another entity to satisfy the permit requirements to implement a minimum control measure if:

   a. The other entity, in fact, implements the control measure;

   b. The particular control measure, or component thereof, is at least as stringent as the corresponding permit requirement;

   c. The other entity agrees to implement the control measure on behalf of the permittee; and

   d. The agreement between the parties is documented in writing and retained by the permittee with the MS4 program plan for as long as the agreement is active.

   The permittee shall remain responsible for compliance with requirements of the permit and shall document in the annual reports required in accordance with Part I D that another entity is being relied on to satisfy all or part of the state permit requirements. The permittee shall provide the information required in Part I D.

7. If the permittee relies on another governmental entity regulated under 9VAC25-870-380 to satisfy all of the state permit obligations, including the obligation to file periodic reports required by Part I D, the permittee must note that fact in the registration statement, but is not required to file the periodic reports. The permittee remains responsible for compliance with the state permit requirements if the other entity fails to implement the control measures or components thereof.

D. Annual reporting requirements.

1. The permittee shall submit an annual report to the department no later than October 1 of each year in a format as specified by the department. The report shall cover the previous year from July 1 to June 30.

2. The annual report shall include the following general information:

   a. The permittee, system name, and permit number;

   b. The reporting period for which the annual report is being submitted;

   c. A signed certification as per Part III K;

   d. Each annual reporting item as specified in an MCM in Part I E; and

   e. An evaluation of the MS4 program implementation, including a review of each MCM, to determine the MS4 program's effectiveness and whether or not changes to the MS4 program plan are necessary.

3. For permittees receiving initial coverage under this general VPDES permit for the discharge of stormwater, the annual report shall include a status update on each component of the MS4 program plan being developed. Once the MS4 program plan has been updated to include

implementation of a specific MCM in Part I E, the permittee shall follow the reporting requirements established in Part I D 2.

4. For those permittees with requirements established under Part II A, the annual report shall include a status report on the implementation of the Chesapeake Bay TMDL action plan in accordance with Part II A of this permit including any revisions to the plan.

5. For those permittees with requirements established under Part II B, the annual report shall include a status report on the implementation of the local TMDL action plans in accordance with Part II B including any revisions to the plan.

6. For the purposes of this permit, the MS4 program plan and annual report shall be maintained separately and submitted to the department as required by this permit as two separate documents.

E. Minimum control measures

1. Public education and outreach.

a. The permittee shall implement a public education and outreach program designed to:

(1) Increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;

(2) Increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and

(3) Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.

b. The permittee shall identify no less than three high-priority stormwater issues to meet the goal of educating the public in accordance with Part I E 1 a. High-priority issues may include the following examples: Chesapeake Bay nutrients, pet wastes, local receiving water impairments, TMDLs, high-quality receiving waters, and illicit discharges from commercial sites.

c. The high-priority public education and outreach program, as a whole, shall:

(1) Clearly identify the high-priority stormwater issues;

(2) Explain the importance of the high-priority stormwater issues;

(3) Include measures or actions the public can take to minimize the impact of the high-priority stormwater issues; and

(4) Provide a contact and telephone number, website, or location where the public can find out more information.

d. The permittee shall use two or more of the strategies listed in Table 1 below per year to communicate to the public the high-priority stormwater issues identified in accordance with Part I E 1 b including how to reduce stormwater pollution.

Table 1 Strategies for Public Education and Outreach	
Strategies	Examples (provided as examples and are not meant to be all inclusive or limiting)
Traditional written materials	Informational brochures, newsletters, fact sheets, utility bill inserts, or recreational guides for targeted groups of citizens
Alternative materials	Bumper stickers, refrigerator magnets, t-shirts, or drink koozies
Signage	Temporary or permanent signage in public places or facilities, vehicle signage, bill boards, or storm drain stenciling
Media Materials	Information disseminated through electronic media, radio, televisions, movie theater, or newspaper
Speaking engagements	Presentations to school, church, industry, trade, special interest, or community groups
Curriculum materials	Materials developed for school-aged children, students at local colleges or universities, or extension classes offered to local citizens
Training materials	Materials developed to disseminate during workshops offered to local citizens, trade organization, or industrial officials

e. The permittee may coordinate its public education and outreach efforts with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of its state permit requirements.

f. The MS4 program plan shall include:

(1) A list of the high-priority stormwater issues the permittee will communicate to the public as part of the public education and outreach program;

(2) The rationale for selection of each high-priority stormwater issue and an explanation of how each education or outreach strategy is intended to have a positive impact on stormwater discharges;

(3) Identification of the public audience to receive each high-priority stormwater message;

(4) The strategies from Table 1 of Part I E 1 d to be used to communicate each high-priority stormwater message; and

(5) The anticipated time periods the messages will be communicated or made available to the public.

g. The annual report shall include the following information:

(1) A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program; and

(2) A list of the strategies used to communicate each high-priority stormwater issue.

2. Public involvement and participation.

a. The permittee shall develop and implement procedures for the following:

(1) The public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns;

(2) The public to provide input on the permittee's MS4 program plan;

(3) Receiving public input or complaints;

(4) Responding to public input received on the MS4 program plan or complaints; and

(5) Maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the permittee's response.

b. No later than three months after this permit's effective date, the permittee shall develop and maintain a webpage dedicated to the MS4 program and stormwater pollution prevention. The following information shall be posted on this webpage:

(1) The effective MS4 permit and coverage letter;

(2) The most current MS4 program plan or location where the MS4 program plan can be obtained;

(3) The annual report for each year of the term covered by this permit no later than 30 days after submittal to the department;

(4) A mechanism for the public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns in accordance with Part I E 2 a (1); and

(5) (5) Methods for how the public can provide input on the permittee's MS4 program plan in accordance with Part I E 2 a (2).

c. The permittee shall implement no less than four activities per year from two or more of the categories listed in Table 2 below to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.

Table 2 Public Involvement Opportunities	
Public involvement opportunities	Examples (provided as example and are not meant to be all inclusive or limiting)
Monitoring	Establish or support citizen monitoring group
Restoration	Stream or watershed clean-up day, adopt-a-water way program,
Educational events	Booth at community fair, demonstration of stormwater control projects, presentation of stormwater materials to schools to meet applicable education Standards of Learning or curriculum requirements, watershed walks, participation on environmental advisory committees
Disposal or collection events	Household hazardous chemicals collection, vehicle fluids collection
Pollution prevention	Adopt-a-storm drain program, implement a storm drain marking program, promote use of residential stormwater BMPs, implement pet waste stations in public areas, adopt-a-street program.

d. The permittee may coordinate the public involvement opportunities listed in Table 2 with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of the permit requirements.

e. The MS4 program plan shall include:

(1) The webpage address where mechanisms for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns;

(2) The webpage address that contains the methods for how the public can provide input on the permittee's MS4 program; and

(3) A description of the public involvement activities to be implemented by the permittee, the anticipated time period the activities will occur, and a metric for each activity to determine if the activity is beneficial to water quality. An example of metrics may include the weight of trash collected from a stream cleanup, the number of participants in a hazardous waste collection event, etc.

f. The annual report shall include the following information:

(1) A summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded;

(2) A webpage address to the permittee's MS4 program and stormwater website;

(3) A description of the public involvement activities implemented by the permittee;

(4) A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality; and

(5) The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.

3. Illicit discharge detection and elimination.

a. The permittee shall develop and maintain an accurate MS4 map and information table as follows:

(1) A map of the storm sewer system owned or operated by the permittee within the census urbanized area identified by the 2010 decennial census that includes, at a minimum:

(a) MS4 outfalls discharging to surface waters, except as follows:

(i) In cases where the outfall is located outside of the MS4 permittee's legal responsibility, the permittee may elect to map the known point of discharge location closest to the actual outfall; and

(ii) In cases where the MS4 outfall discharges to receiving water channelized underground, the permittee may elect to map the point downstream at which the receiving water emerges above ground as an outfall discharge location. If there are multiple outfalls discharging to an underground channelized receiving water, the map shall identify that an outfall discharge location represents more than one outfall. This is an option a permittee may choose to use and recognizes the difficulties in accessing outfalls to underground channelized stream conveyances for purposes of mapping, screening, or monitoring.

(b) A unique identifier for each mapped item required in Part I E 3;

(c) The name and location of receiving waters to which the MS4 outfall or point of discharge discharges;

(d) MS4 regulated service area; and

(e) stormwater management facilities owned or operated by the permittee.

(2) The permittee shall maintain an information table associated with the storm sewer system map that includes the following information for each outfall or point of discharge for those cases in which the permittee elects to map the known point of discharge in accordance with Part I E 3 a (1) (a):

(a) A unique identifier as specified on the storm sewer system map;

(b) The latitude and longitude of the outfall or point of discharge;

(c) The estimated regulated acreage draining to the outfall or point of discharge;

(d) The name of the receiving water;

(e) The 6th Order Hydrologic Unit Code of the receiving water;

(f) An indication as to whether the receiving water is listed as impaired in the Virginia 2016 305(b)/303(d) Water Quality Assessment Integrated Report;

(g) The predominant land use for each outfall discharging to an impaired water; and

(h) The name of any EPA approved TMDLs for which the permittee is assigned a wasteload allocation.

(3) No later than July 1, 2019, the permittee shall submit to DEQ a GIS-compatible shapefile of the permittee's MS4 map as described in Part I E 3 a. If the permittee does not have an MS4 map in a GIS format, the permittee shall provide the map as a PDF document.

(4) No later than October 1 of each year, the permittee shall update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate preceding reporting period.

(5) The permittee shall provide written notification to any downstream adjacent MS4 of any known physical interconnection established or discovered after the effective date of this permit.

b. The permittee shall prohibit, through ordinance, policy, standard operating procedures, or other legal mechanism, to the extent allowable under federal, state, or local law, regulations, or ordinances, unauthorized nonstormwater discharges into the storm sewer system. Nonstormwater discharges or flows identified in 9VAC25-890-20 D 3 shall only be addressed if they are identified by the permittee as a significant contributor of pollutants discharging to the MS4. Flows that have been identified by the department as de minimis discharges are not significant sources of pollutants to surface water.

c. The permittee shall maintain, implement, and enforce illicit discharge detection and elimination (IDDE) written procedures designed to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge. Written procedures shall include:

(1) A description of the legal authorities, policies, standard operating procedures or other legal mechanisms available to the permittee to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities.

(2) Dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall include:

(a) A prioritized schedule of field screening activities and rationale for prioritization determined by the permittee based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections;

(b) If the total number of MS4 outfalls is equal to or less than 50, a schedule to screen all outfalls annually;

(c) If the total number of MS4 outfalls is greater than 50, a schedule to screen a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period. The 50% criteria is not applicable if all outfalls have been screened in the previous three years; and

(d) A mechanism to track the following information:

(i) The unique outfall identifier;

(ii) Time since the last precipitation event;

(iii) The estimated quantity of the last precipitation event;

(iv) Site descriptions (e.g., conveyance type and dominant watershed land uses);

(v) Whether or not a discharge was observed; and

(vi) If a discharge was observed, the estimated discharge rate (e.g., width and depth of discharge flow rate) and visual characteristics of the discharge (e.g., odor, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology).

(3) A timeframe upon which to conduct an investigation to identify and locate the source of any observed unauthorized nonstormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Discharges authorized under a separate VPDES or state permit require no further action under this permit.

(4) Methodologies to determine the source of all illicit discharges. If the permittee is unable to identify the source of an illicit discharge within six months of beginning the investigation then the permittee shall document that the source remains unidentified. If the observed discharge is intermittent, the permittee shall document that attempts to observe the discharge flowing were unsuccessful.

(5) Methodologies for conducting a follow-up investigation for illicit discharges that are continuous or that permittees expect to occur more frequently than a one-time discharge to verify that the discharge has been eliminated except as provided for in Part I E 3 c (4);

(6) A mechanism to track all illicit discharge investigations to document the following:

(a) The dates that the illicit discharge was initially observed, reported, or both;

(b) The results of the investigation, including the source, if identified;

(c) Any follow-up to the investigation;

(d) Resolution of the investigation; and

(e) The date that the investigation was closed.

d. The MS4 program plan shall include:

(1) The MS4 map and information table required by Part I E 3 a. The map and information table may be incorporated into the MS4 program plan by reference. The map shall be made available to the department within 14 days upon request;

(2) Copies of written notifications of new physical interconnections given by the permittee to other MS4s; and

(3) The IDDE procedures described in Part I E 3 c.

e. The annual report shall include:

(1) A confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year;

(2) The total number of outfalls screened during the reporting period as part of the dry weather screening program; and

(3) A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:

(a) The source of illicit discharge;

(b) The dates that the discharge was observed, reported, or both;

(c) Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe);

(d) How the investigation was resolved;

(e) A description of any follow-up activities; and

(f) The date the investigation was closed.

4. Construction site stormwater runoff control.

a. The permittee shall utilize its legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to address discharges entering the MS4 from regulated construction site stormwater runoff. The permittee shall control construction site stormwater runoff as follows:

(1) If the permittee is a city, county, or town that has adopted a Virginia Erosion and Sediment Control Program (VESCP), the permittee shall implement the VESCP consistent with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.

of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840);

(2) If the permittee is a town that has not adopted a VESCP, implementation of a VESCP consistent with the Virginia Erosion and Sediment Control Law (§ 62.1-44:15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840) by the surrounding county shall constitute compliance with Part I E 4 a; such town shall notify the surrounding county of erosion, sedimentation or other construction stormwater runoff problems;

(3) If the permittee is a state agency; public institution of higher education including community colleges, colleges, and universities; or federal entity and has developed standards and specifications in accordance with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840), the permittee shall implement the most recent department approved standards and specifications; or

(4) If the permittee is a state agency; public institution of higher education including community colleges, colleges, and universities; or federal entity and has not developed standards and specifications in accordance with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840), the permittee shall inspect all land disturbing activities as defined in § 62.1-44.15:51 of the Code of Virginia that result in the disturbance activities of 10,000 square feet or greater, or 2,500 square feet or greater in accordance with areas designated under the Chesapeake Bay Preservation Act, as follows:

(a) During or immediately following initial installation of erosion and sediment controls;

(b) At least once per every two-week period;

(c) Within 48 hours following any runoff producing storm event; and

(d) At the completion of the project prior to the release of any performance bond.

(5) If the permittee is a subdivision of a local government such as a school board or other local government body, the permittee shall inspect those projects resulting in a land disturbance as defined in § 62.1-44.15.51 of the Code of Virginia occurring on lands owned or operated by the permittee that result in the disturbance of 10,000 square feet or greater, 2,500 square feet or greater in accordance with areas designated under the Chesapeake Bay Preservation Act, or in accordance with more stringent thresholds established by the local government, as follows:

(a) During or immediately following initial installation of erosion and sediment controls;

(b) At least once per every two-week period;

(c) Within 48 hours following any runoff producing storm event; and

(d) At the completion of the project prior to the release of any performance bond.

b. The permittee shall require implementation of appropriate controls to prevent nonstormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified during land disturbing activity inspections of the MS4. The discharge of nonstormwater discharges other than those identified in 9VAC25-890-20 D through the MS4 is not authorized by this state permit.

c. The permittee's MS4 program plan shall include:

(1) If the permittee implements a construction site stormwater runoff control program in accordance with Part I E 4 a (1), the local ordinance citations for the VESCP program;

(2) If the permittee implements a construction site stormwater runoff control program in accordance with Part I E 4 a (3):

(a) The most recently approved standards and specifications or if incorporated by reference, the location where the standards and specifications can be viewed; and

(b) A copy of the most recent standards and specifications approval letter from the department;

(3) A description of the legal authorities utilized to ensure compliance with Part I E 4 a to control construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, policies, and interjurisdictional agreements;

(4) Written inspection procedures to ensure the erosion and sediment controls are properly implemented and all associated documents utilized during inspection including the inspection schedule;

(5) Written procedures for requiring compliance through corrective action or enforcement action to the extent allowable under federal, state, or local law, regulation, ordinance, or other legal mechanisms; and

(6) The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the construction site stormwater runoff control requirements in Part I E 4.

d. The annual report shall include the following:

(1) If the permittee implements a construction site stormwater runoff program in accordance with Part I E 4 a (3):

(a) A confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control; and

(b) If one or more of the land disturbing projects were not conducted with the department approved standards and specifications, an explanation as to why the projects did not conform to the approved standards and specifications.

(2) Total number of inspections conducted; and

(3) The total number and type of enforcement actions implemented and the type of enforcement actions.

5. Post-construction stormwater management for new development and development on prior developed lands.

a. The permittee shall address post-construction stormwater runoff that enters the MS4 from the following land disturbing activities by implementing a post-construction stormwater runoff management program as follows:

(1) If the permittee is a city, county, or town, with an approved Virginia Stormwater Management Program (VSMP), the permittee shall implement the VSMP consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870) as well as develop an inspection and maintenance program in accordance with Parts I E 5 b and c;

(2) If the permittee is a town that has not adopted a VSMP, implementation of a VSMP consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870) by the surrounding county shall constitute compliance with Part I E 5 a; such town shall notify the surrounding county of erosion, sedimentation, or other post-construction stormwater runoff problems and develop an inspection and maintenance program in accordance with Part I E 5 b and c;

(3) If the permittee is a state agency; public institution of higher education including community colleges, colleges, and universities; or federal entity and has developed standards and specifications in accordance with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870), the permittee shall implement the most recent department approved standards and specifications and develop an inspection and maintenance program in accordance with Part I E 5 b;

(4) If the permittee is a state agency; public institution of higher education including community colleges, colleges, and universities; or federal entity and has not developed standards and specifications in accordance with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and Virginia Stormwater Management Regulations (9VAC25-870) the permittee shall implement a post-construction stormwater runoff control program through compliance with 9VAC25-870 and with the implementation of a maintenance and inspection program consistent with Part I E 5 b; or

(5) If the permittee is a subdivision of a local government such as a school board or other local government body, the permittee shall implement a post-construction stormwater runoff control program through compliance with 9VAC25-870 or in accordance with more stringent local requirements, if applicable, and with the implementation of a maintenance and inspection program consistent with Part I E 5 b.

b. The permittee shall implement an inspection and maintenance program for those stormwater management facilities owned or operated by the permittee that discharges to the MS4 as follows:

(1) The permittee shall develop and maintain written inspection and maintenance procedures in order to ensure adequate long-term operation and maintenance of its stormwater management facilities;

(2) The permittee shall inspect stormwater management facilities owned or operated by the permittee no less than once per year. The permittee may choose to implement an alternative schedule to inspect these stormwater management facilities based on facility type and expected maintenance needs provided that the alternative schedule and rationale is included in the MS4 program plan. The alternative inspection frequency shall be no less than once per five years; and

(3) If during the inspection of the stormwater management facility conducted in accordance with Part I E 5 b (2), it is determined that maintenance is required, the permittee shall conduct the maintenance in accordance with the written procedures developed under Part I E 5 b (1).

c. For those permittees described in Part I E 5 a (1) or (2), the permittee shall:

(1) Implement an inspection and enforcement program for stormwater management facilities not owned by the permittee (i.e., privately owned) that includes:

(a) An inspection frequency of no less than once per five years for all privately owned stormwater management facilities that discharge into the MS4; and

(b) Adequate long-term operation and maintenance by the owner of the stormwater management facility by requiring the owner to develop and record a maintenance agreement, including an inspection schedule to the extent allowable under state or local law or other legal mechanism;

(2) Utilize its legal authority for enforcement of the maintenance responsibilities if maintenance is neglected by the owner; and

(3) The permittee may develop and implement a progressive compliance and enforcement strategy provided that the strategy is included in the MS4 program plan.

d. The permittee shall maintain an electronic database or spreadsheet of all known permittee-owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4. The database shall also include all BMPs implemented by the permittee to meet the Chesapeake Bay TMDL load reduction as required in Part II A. A database shall include the following information as applicable:

(1) The stormwater management facility or BMP type;

(2) The stormwater management facility or BMPs location as latitude and longitude;

(3) The acres treated by the stormwater management facility or BMP, including total acres, pervious acres, and impervious acres;

(4) The date the facility was brought online (MM/YYYY). If the date brought online is not known, the permittee shall use June 30, 2005;

(5) The 6th Order Hydrologic Unit Code in which the stormwater management facility is located;

(6) Whether the stormwater management facility or BMP is owned or operated by the permittee or privately owned;

(7) Whether or not the stormwater management facility or BMP is part of the permittee's Chesapeake Bay TMDL action plan required in Part II A or local TMDL action plan required in Part II B, or both;

(8) If the stormwater management facility or BMP is privately owned, whether a maintenance agreement exists; and

(9) The date of the permittee's most recent inspection of the stormwater management facility or BMP.

e. The electronic database or spreadsheet shall be updated no later than 30 days after a new stormwater management facility is brought online, a new BMP is implemented to meet a TMDL load reduction as required in Part II, or discovered if it is an existing stormwater management facility.

f. The permittee shall use the DEQ Construction Stormwater Database or other application as specified by the department to report each stormwater management facility installed after July 1, 2014, to address the control of post-construction runoff from land disturbing activities for which the permittee is required to obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities.

g. No later than October 1 of each year, the permittee shall electronically report the stormwater management facilities and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated reporting template for any practices not reported in accordance with Part I E 5 f including stormwater management facilities installed to control post-development stormwater runoff from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations (9VAC25-830) and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.

h. The MS4 program plan shall include:

(1) If the permittee implements a VSMP in accordance with Part I E 5 a (1) and (2):

(a) A copy of the VSMP approval letter issued by the department;

(b) Written inspection procedures and all associated documents utilized in the inspection of privately owned stormwater management facilities; and

(c) Written procedures for compliance and enforcement of inspection and maintenance requirements for privately owned BMPs.

(2) If the permittee implements a post-development stormwater runoff control program in accordance with Part I E 5 a (3):

(a) The most recently approved standards and specifications or if incorporated by reference, the location where the standards and specifications can be viewed; and

(b) A copy of the most recent standards and specifications approval letter from the department.

(3) A description of the legal authorities utilized to ensure compliance with Part I E 5 a for post-construction stormwater runoff control such as ordinances (provide citation as appropriate), permits, orders, specific contract language, and interjurisdictional agreements;

(4) Written inspection procedures and all associated documents utilized during inspection of stormwater management facilities owned or operated by the permittee;

(5) The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the post-construction stormwater runoff control program; and

(6) The stormwater management facility spreadsheet or database incorporated by reference and the location or webpage address where the spreadsheet or database can be reviewed.

i. The annual report shall include the following information:

(1) If the permittee implements a Virginia Stormwater Management Program in accordance with Part I E 5 a (1) and (2):

(a) The number of privately owned stormwater management facility inspections conducted; and

(b) The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action;

(2) Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;

(3) A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;

(4) A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for

those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities; and

(5) A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted.

6. Pollution prevention and good housekeeping for facilities owned or operated by the permittee within the MS4 service area.

   a. The permittee shall maintain and implement written procedures for those activities at facilities owned or operated by the permittee, such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers designed to:

      (1) Prevent illicit discharges;

      (2) Ensure the proper disposal of waste materials, including landscape wastes;

      (3) Prevent the discharge of wastewater or permittee vehicle wash water or both into the MS4 without authorization under a separate VPDES permit;

      (4) Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;

      (5) Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices;

      (6) Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and

      (7) Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

   b. The written procedures established in accordance with Part I E 6 a shall be utilized as part of the employee training program at Part I E 6 m.

   c. Within 12 months of state permit coverage, the permittee shall identify which of the high-priority facilities have a high potential of discharging pollutants. The permittee shall maintain and implement a site specific stormwater pollution prevention plan (SWPPP) for each facility identified. High priority facilities that have a high potential for discharging pollutants are those facilities that are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:

      (1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;

(2) Materials or residuals on the ground or in stormwater inlets from spills or leaks;

(3) Material handling equipment;

(4) Materials or products that would be expected to be mobilized in stormwater runoff during loading or unloading or transporting activities (e.g., rock, salt, fill dirt);

(5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);

(6) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

(7) Waste material except waste in covered, nonleaking containers (e.g., dumpsters);

(8) Application or disposal of process wastewater (unless otherwise permitted); or

(9) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.

d. Each SWPPP as required in Part I E 6 c shall include the following:

(1) A site description that includes a site map identifying all outfalls, direction of stormwater flows, existing source controls, and receiving water bodies;

(2) A description and checklist of the potential pollutants and pollutant sources;

(3) A description of all potential nonstormwater discharges;

(4) Written procedures designed to reduce and prevent pollutant discharge;

(5) A description of the applicable training as required in Part I E 6 m;

(6) Procedures to conduct an annual comprehensive site compliance evaluation;

(7) An inspection frequency of no less than once per year and maintenance requirements for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP; and

(8) A log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G including the following information:

(a) Date of incident;

(b) Material discharged, released, or spilled; and

(c) Estimated quantity discharged, released or spilled .

e. No later than June 30 of each year, the permittee shall annually review any high-priority facility owned or operated by the permittee for which a SWPPP has not been developed to determine if the facility has a high potential to discharge pollutants as described in Part I E 6

c. If the facility is determined to be a high-priority facility with a high potential to discharge pollutants, the permittee shall develop a SWPPP meeting the requirements of Part I E 6 d no later than December 31 of that same year.

f. The permittee shall review the contents of any site specific SWPPP no later than 30 days after any unauthorized discharge, release, or spill reported in accordance with Part III G to determine if additional measures are necessary to prevent future unauthorized discharges, releases, or spills. If necessary, the SWPPP shall be updated no later than 90 days after the unauthorized discharge.

g. The SWPPP shall be kept at the high-priority facility with a high potential to discharge and utilized as part of staff training required in Part I E 6 m. The SWPPP and associated documents may be maintained as a hard copy or electronically as long as the documents are available to employees at the applicable site.

h. If activities change at a facility such that the facility no longer meets the criteria of a high-priority facility with a high potential to discharge pollutants as described in Part I E 6 c, the permittee may remove the facility from the list of high-priority facilities with a high potential to discharge pollutants.

i. The permittee shall maintain and implement turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the permittee where nutrients are applied to a contiguous area greater than one acre. If nutrients are being applied to achieve final stabilization of a land disturbance project, application shall follow the manufacturer's recommendations.

j. Permittees with lands regulated under § 10.1-104.4 of the Code of Virginia, including state agencies, state colleges and universities, and other state government entities, shall continue to implement turf and landscape nutrient management plans in accordance with this statutory requirement.

k. The permittee shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

l. The permittee shall require through the use of contract language, training, standard operating procedures, or other measures within the permittee's legal authority that contractors employed by the permittee and engaging in activities with the potential to discharge pollutants use appropriate control measures to minimize the discharge of pollutants to the MS4.

m. The permittee shall develop a training plan in writing for applicable staff that ensures the following:

(1) Field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months;

(2) Employees performing road, street, and parking lot maintenance receive training in pollution prevention and good housekeeping associated with those activities no less than once per 24 months;

(3) Employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities no less than once per 24 months;

(4) Employees and contractors hired by the permittee who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VCACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement;

(5) Employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations;

(6) Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations; and

(7) Employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law-enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement and be documented in the training plan.

n. The permittee shall maintain documentation of each training event conducted by the permittee to fulfill the requirements of Part I E 6 m for a minimum of three years after the training event. The documentation shall include the following information:

(1) The date of the training event;

(2) The number of employees attending the training event; and

(3) The objective of the training event.

o. The permittee may fulfill the training requirements in Part I E 6 m, in total or in part, through regional training programs involving two or more MS4 permittees; however, the permittee shall remain responsible for ensuring compliance with the training requirements.

p. The MS4 program plan shall include:

(1) The written procedures for the operations and maintenance activities as required by Part I E 6 a;

(2) A list of all high-priority facilities owned or operated by the permittee required in accordance with Part I E 6 c, and whether or not the facility has a high potential to discharge;

(3) A list of lands for which turf and landscape nutrient management plans are required in accordance with Part I E 6 i and j, including the following information:

(a) The total acreage on which nutrients are applied;

(b) The date of the most recently approved nutrient management plan for the property; and

(c) The location in which the individual turf and landscape nutrient management plan is located;

(4) A summary of mechanisms the permittee uses to ensure contractors working on behalf of the permittees implement the necessary good housekeeping and pollution prevention procedures, and stormwater pollution plans as appropriate; and

(5) The written training plan as required in Part I E 6 m.

q. The annual report shall include the following:

(1) A summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period;

(2) A summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period;

(3) A summary of any SWPPPs modified in accordance with Part I E 6 f or the rationale of any high priority facilities delisted in accordance with Part I E 6 h during the reporting period;

(4) A summary of any new turf and landscape nutrient management plans developed that includes:

(a) Location and the total acreage of each land area; and

(b) The date of the approved nutrient management plan; and

(5) A list of the training events conducted in accordance with Part I E 6 m, including the following information:

(a) The date of the training event;

(b) The number of employees who attended the training event; and

(c) The objective of the training event.

Part II
TMDL Special Conditions

A. Chesapeake Bay TMDL special condition.

1. The Commonwealth in its Phase I and Phase II Chesapeake Bay TMDL Watershed Implementation Plans (WIPs) committed to a phased approach for MS4s, affording MS4 permittees up to three full five-year permit cycles to implement necessary reductions. This permit is consistent with the Chesapeake Bay TMDL and the Virginia Phase I and Phase II WIPs to meet the Level 2 (L2) scoping run for existing developed lands as it represents an implementation of an additional 35% of L2 as specified in the 2010 Phase I and Phase II WIPs. In combination with the 5.0% reduction of L2 that has already been achieved, a total reduction at the end of this permit term of 40% of L2 will be achieved. Conditions of future permits will be consistent with the TMDL or WIP conditions in place at the time of permit issuance.

2. The following definitions apply to Part II of this state permit for the purpose of the Chesapeake Bay TMDL special condition for discharges in the Chesapeake Bay Watershed:

   "Existing sources" means pervious and impervious urban land uses served by the MS4 as of June 30, 2009.

   "New sources" means pervious and impervious urban land uses served by the MS4 developed or redeveloped on or after July 1, 2009.

   "Pollutants of concern" or "POC" means total nitrogen, total phosphorus, and total suspended solids.

   "Transitional sources" means regulated land disturbing activities that are temporary in nature and discharge through the MS4.

3. Reduction requirements. No later than the expiration date of this permit, the permittee shall reduce the load of total nitrogen, total phosphorus, and total suspended solids from existing developed lands served by the MS4 as of June 30, 2009, within the 2010 Census urbanized areas by at least 40% of the Level 2 (L2) Scoping Run Reductions. The 40% reduction is the sum of (i) the first phase reduction of 5.0% of the L2 Scoping Run Reductions based on the lands located within the 2000 Census urbanized areas required by June 30, 2018; (ii) the second phase reduction of at least 35% of the L2 Scoping Run based on lands within the 2000 Census urbanized areas required by June 30, 2023; and (iii) the reduction of at least 40% of the L2 Scoping Run , which shall only apply to the additional lands that were added by the 2010 expanded Census urbanized areas required by June 30, 2023. The required reduction shall be calculated using Tables 3a, 3b, 3c, and 3d below as applicable:

Table 3a
Calculation Sheet for Estimating Existing Source Loads and Reduction Requirements for the James River, Lynnhaven, and Little Creek Basins

		A	B	C	D	E	F	G
Pollutant	Subsource	Loading rate (lbs/ac/yr)[1]	Existing developed lands as of 6/30/09 served by the MS4 within the 2010 CUA (acres)[2]	Load(lbs/yr)[3]	Percentage of MS4 required Chesapeake Bay total L2 loading	Percentage of L2 required reduction by 6/30/2023	40% cumulative reduction Required by 6/30/2023 (lbs/yr)[4]	Sum of 40% cumulative reduction (lb/yr)[5]
Nitrogen	Regulated urban impervious	9.39			9%	40%		
	Regulated urban pervious	6.99			6%	40%		
Phosphorus	Regulated urban impervious	1.76			16%	40%		
	Regulated urban pervious	0.5			7.25%	40%		
Total suspended solids	Regulated urban impervious	676.94			20%	40%		
	Regulated urban pervious	101.08			8.75%	40%		

[1]Edge of stream loading rate based on the Chesapeake Bay Watershed Model Progress Run 5.3.2.

[2]To determine the existing developed acres required in Column B, permittees should first determine the extent of their regulated service area based on the 2010 Census urbanized area (CUA). Next, permittees will need to delineate the lands within the 2010 CUA served by the MS4 as pervious or impervious as of the baseline date of June 30, 2009.

[3]Column C = Column A x Column B.

[4]Column F = Column C x Column D x Column E.

[5]Column G = The sum of the subsource cumulative reduction required by 6/30/23 (lbs/yr) as calculated in Column F.

Table 3b
Calculation Sheet for Estimating Existing Source Loads and Reduction Requirements for the Potomac River Basin

		A	B	C	D	E	F	G
Pollutant	Subsource	Loading rate (lbs/ac/yr)[1]	Existing developed lands as of 6/30/09 served by the MS4 within the 2010 CUA (acres)[2]	Load (lbs/yr)[3]	Percentage of MS4 required Chesapeake Bay total L2 loading reduction	Percentage of L2 required reduction by	40% cumulative reduction required by 6/30/2023 (lbs/yr)[4]	Sum of 40% cumulative reduction (lb/yr)[5]
Nitrogen	Regulated urban impervious	16.86			9%	40%		
	Regulated urban pervious	10.07			6%	40%		
Phosphorus	Regulated Urban Impervious	1.62			16%	40%		
	Regulated urban pervious	0.41			7.25%	40%		
Total suspended solids	Regulated urban impervious	1171.32			20%	40%		
	Regulated urban pervious	175.8			8.75%	40%		

[1]Edge of stream loading rate based on the Chesapeake Bay Watershed Model Progress Run 5.3.2

[2]To determine the existing developed acres required in Column B, permittees should first determine the extent of their regulated service area based on the 2010 Census urbanized area (CUA). Next, permittees will need to delineate the lands within the 2010 CUA served by the MS4 as pervious or impervious as of the baseline date of June 30, 2009.

[3]Column C = Column A x Column B.

[4]Column F = Column C x Column D x Column E.

[5]Column G = The sum of the subsource cumulative reduction required by 6/30/23 (lbs/yr) as calculated in Column F.

Table 3c
Calculation Sheet for Estimating Existing Source Loads and Reduction Requirements for the Rappahannock River Basin

		A	B	C	D	E	F	G
Pollutant	Subsource	Loading rate (lbs/ac/yr)[1]	Existing developed lands as of 6/30/09 served by the MS4 within the 2010 CUA (acres)[2]	Load (lbs/yr)[3]	Percentage of MS4 required Chesapeake Bay total L2 loading reduction	Percentage of L2 required reduction by 6/30/2023	40% cumulative reduction Required by 6/30/2023 (lbs/yr)[4]	Sum of 40% cumulative reduction (lb/yr)[5]
Nitrogen	Regulated urban impervious	9.38			9%	40%		
	Regulated urban pervious	5.34			6%	40%		
Phosphorus	Regulated urban impervious	1.41			16%	40%		
	Regulated urban pervious	0.38			7.25%	40%		
Total suspended solids	Regulated urban impervious	423.97			20%	40%		
	Regulated urban pervious	56.01			8.75%	40%		

[1]Edge of stream loading rate based on the Chesapeake Bay Watershed Model Progress Run 5.3.2.

[2]To determine the existing developed acres required in Column B, permittees should first determine the extent of their regulated service area based on the 2010 Census urbanized area (CUA). Next, permittees will need to delineate the lands within the 2010 CUA served by the MS4 as pervious or impervious as of the baseline date of June 30, 2009.

[3]Column C = Column A x Column B.

[4]Column F = Column C x Column D x Column E.

[5]Column G = The sum of the subsource cumulative reduction required by 6/30/23 (lbs/yr) as calculated in Column F.

Table 3d
Calculation Sheet for Estimating Existing Source Loads and Reduction Requirements for the York River and Poquoson Coastal Basin

		A	B	C	D	E	F	G
Pollutant	Subsource	Loading rate (lbs/ac/yr)[1]	Existing developed lands as of 6/30/09 served by the MS4 within the 2010 CUA (acres)[2]	Load (lbs/yr)[3]	Percentage of MS4 required Chesapeake Bay total L2 loading reduction	Percentage of L2 required reduction by 6/30/2023	40% cumulative reduction required by 6/30/2023 (lbs/yr)[4]	Sum of 40% cumulative reduction (lb/yr)[5]
Nitrogen	Regulated urban impervious	7.31			9%	40%		
	Regulated urban pervious	7.65			6%	40%		
Phosphorus	Regulated urban impervious	1.51			16%	40%		
	Regulated urban pervious	0.51			7.25%	40%		
Total suspended solids	Regulated urban impervious	456.68			20%	40%		
	Regulated urban pervious	72.78			8.75%	40%		

[1]Edge of stream loading rate based on the Chesapeake Bay Watershed Model Progress Run 5.3.2.

[2]To determine the existing developed acres required in Column B, permittees should first determine the extent of their regulated service area based on the 2010 Census urbanized area (CUA). Next, permittees will need to delineate the lands within the 2010 CUA served by the MS4 as pervious or impervious as of the baseline date of June 30, 2009.

[3]Column C = Column A x Column B.

[4]Column F = Column C x Column D x Column E.

[5]Column G = The sum of the subsource cumulative reduction required by 6/30/23 (lbs/yr) as calculated in Column F.

4. No later than the expiration date of this permit, the permittee shall offset 40% of the increased loads from new sources initiating construction between July 1, 2009, and June 30, 2019, and designed in accordance with 9VAC25-870 Part II C (9VAC25-870-93 et seq.) if the following conditions apply:

   a. The activity disturbed one acre or greater; and

   b. The resulting total phosphorous load was greater than 0.45 lb/acre/year, which is equivalent to an average land cover condition of 16% impervious cover.

   The permittee shall utilize Table 4 of Part II A 5 to develop the equivalent pollutant load for nitrogen and total suspended solids for new sources meeting the requirements of this condition.

5. No later than the expiration date of this permit, the permittee shall offset the increased loads from projects grandfathered in accordance with 9VAC25-870-48 that begin construction after July 1, 2014, if the following conditions apply:

   a. The activity disturbs one acre or greater; and

   b. The resulting total phosphorous load was greater than 0.45 lb/acre/year, which is equivalent to an average land cover condition of 16% impervious cover.

   The permittee shall utilize Table 4 below to develop the equivalent pollutant load for nitrogen and total suspended solids for grandfathered sources meeting the requirements of this condition.

Table 4
Ratio of Phosphorus Loading Rate to Nitrogen and Total Suspended Solids Loading Rates for Chesapeake Bay Basins

Ratio of Phosphorus to Other POCs (Based on All Land Uses 2009 Progress Run)	Phosphorus Loading Rate (lbs/acre)	Nitrogen Loading Rate (lbs/acre)	Total Suspended Solids Loading Rate (lbs/acre)
James River Basin, Lynnhaven, and Little Creek Basins	1.0	5.2	420.9
Potomac River Basin	1.0	6.9	469.2
Rappahannock River Basin	1.0	6.7	320.9
York River Basin (including Poquoson Coastal Basin)	1.0	9.5	531.6

6. Reductions achieved in accordance with the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems effective July 1, 2013, shall be applied toward the total reduction requirements to demonstrate compliance with Part II A 3, A 4, and A 5.

7. Reductions shall be achieved in each river basin as calculated in Part II A 3 or for reductions in accordance with Part II A 4 and A 5 in the basin in which the new source or grandfathered project occurred.

8. Loading and reduction values greater than or equal to 10 pounds calculated in accordance with Part II A 3, A 4, and A 5 shall be calculated and reported to the nearest pound without regard to mathematical rules of precision. Loading and reduction values of less than 10 pounds reported in accordance with Part II A 3, A 4, and A 5 shall be calculated and reported to two significant digits.

9. Reductions required in Part II A 3, A 4, and A 5 shall be achieved through one or more of the following:

   a. BMPs approved by the Chesapeake Bay Program;

   b. BMPs approved by the department; or

   c. A trading program described in Part II A 10.

10. The permittee may acquire and use total nitrogen and total phosphorus credits in accordance with § 62.1-44.19:21 of the Code of Virginia and total suspended solids in accordance with § 62.1-44.19:21.1 of the Code of Virginia for purposes of compliance with the required reductions in Table 3a, Table 3b,Table c, Table 3d of Part II A 3; Part II A 4; and Part II A 5, provided the use of credits has been approved by the department. The exchange of credits is subject to the following requirements:

    a. The credits are generated and applied to a compliance obligation in the same calendar year;

    b. The credits are generated and applied to a compliance obligation in the same tributary;

    c. The credits are acquired no later than June 1 immediately following the calendar year in which the credits are applied;

    d. No later than June 1 immediately following the calendar year in which the credits are applied, the permittee certifies on an MS4 Nutrient Credit Acquisition Form that the permittee has acquired the credits;

    e. Total nitrogen and total phosphorus credits shall be either point source credits generated by point sources covered by the Watershed Permit for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed general permit issued pursuant to § 62.1-44.19:14 of the Code of Virginia, or nonpoint source credits certified pursuant to § 62.1-44.19:20 of the Code of Virginia;

    f. Sediment credits shall be derived from one of the following:

       (1) Implementation of BMP in a defined area outside of an MS4 service area, in which case the necessary baseline sediment reduction for such defined area shall be achieved prior to the permittee's use of additional reductions as credit; or

       (2) A point source wasteload allocation established by the Chesapeake Bay total maximum daily load, in which case the credit is the difference between the wasteload allocation specified as an annual mass load and any lower monitored annual mass load that is discharged as certified on an MS4 Sediment Credit Acquisition Form.

g. Sediment credits shall not be associated with phosphorus credits used for compliance with the stormwater nonpoint nutrient runoff water quality criteria established pursuant to § 62.1-44.15:28 of the Code of Virginia.

11. No later than 12 months after the permit effective date, the permittee shall submit an updated Chesapeake Bay TMDL action plan for the reductions required in Part II A 3, A 4, and A 5 that includes the following information:

a. Any new or modified legal authorities, such as ordinances, permits, policy, specific contract language, orders, and interjurisdictional agreements, implemented or needing to be implemented to meet the requirements of Part II A 3, A 4, and A 5.

b. The load and cumulative reduction calculations for each river basin calculated in accordance with Part II A 3, A 4, and A 5.

c. The total reductions achieved as of July 1, 2018, for each pollutant of concern in each river basin.

d. A list of BMPs implemented prior to July 1, 2018, to achieve reductions associated with the Chesapeake Bay TMDL including:

(1) The date of implementation; and

(2) The reductions achieved.

e. The BMPs to be implemented by the permittee prior to the expiration of this permit to meet the cumulative reductions calculated in Part II A 3, A 4, and A 5, including as applicable:

(1) Type of BMP;

(2) Project name;

(3) Location;

(4) Percent removal efficiency for each pollutant of concern; and

(5) Calculation of the reduction expected to be achieved by the BMP calculated and reported in accordance with the methodologies established in Part II A 8 for each pollutant of concern; and

f. A summary of any comments received as a result of public participation required in Part II A 12, the permittee's response, identification of any public meetings to address public concerns, and any revisions made to Chesapeake Bay TMDL action plan as a result of public participation.

12. Prior to submittal of the action plan required in Part II A 11, the permittee shall provide an opportunity for public comment on the additional BMPs proposed to meet the reductions not previously approved by the department in the first phase Chesapeake Bay TMDL action plan for no less than 15 days.

13. For each reporting period, the corresponding annual report shall include the following information:

a. A list of BMPs implemented during the reporting period but not reported to the DEQ BMP Warehouse in accordance with Part I E 5 g and the estimated reduction of pollutants of concern achieved by each and reported in pounds per year;

b. If the permittee acquired credits during the reporting period to meet all or a portion of the required reductions in Part II A 3, A 4, or A 5, a statement that credits were acquired;

c. The progress, using the final design efficiency of the BMPs, toward meeting the required cumulative reductions for total nitrogen, total phosphorus, and total suspended solids; and

d. A list of BMPs that are planned to be implemented during the next reporting period.

B. Local TMDL special condition.

1. The permittee shall develop a local TMDL action plan designed to reduce loadings for pollutants of concern if the permittee discharges the pollutants of concern to an impaired water for which a TMDL has been approved by the U.S. Environmental Protection Agency (EPA) as described in Part II B 1 a and 1 b:

   a. For TMDLs approved by the EPA prior to July 1, 2013, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall update the previously approved local TMDL action plans to meet the conditions of Part II B 3, B 4, B 5, B 6, and B 7 as applicable, no later than 18 months after the permit effective date and continue implementation of the action plan; and

   b. For TMDLs approved by EPA on or after July 1, 2013, and prior to June 30, 2018, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall develop and initiate implementation of action plans to meet the conditions of Part II B 3, B 4, B 5, B 6, and B 7 as applicable for each pollutant for which wasteloads have been allocated to the permittee's MS4 no later than 30 months after the permit effective date.

2. The permittee shall complete implementation of the TMDL action plans as soon as practicable. TMDL action plans may be implemented in multiple phases over more than one permit cycle using the adaptive iterative approach provided adequate progress is achieved in the implementation of BMPs designed to reduce pollutant discharges in a manner that is consistent with the assumptions and requirements of the applicable TMDL.

3. Each local TMDL action plan developed by the permittee shall include the following:

   a. The TMDL project name;

   b. The EPA approval date of the TMDL;

   c. The wasteload allocated to the permittee (individually or in aggregate), and the corresponding percent reduction, if applicable;

   d. Identification of the significant sources of the pollutants of concern discharging to the permittee's MS4 and that are not covered under a separate VPDES permit. For the purposes of this requirement, a significant source of pollutants means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL;

   e. The BMPs designed to reduce the pollutants of concern in accordance with Parts II B 4, B 5, and B 6;

   f. Any calculations required in accordance with Part II B 4, B 5, or B 6;

   g. For action plans developed in accordance with Part II B 4 and B 5, an outreach strategy to enhance the public's education (including employees) on methods to eliminate and reduce discharges of the pollutants; and

h. A schedule of anticipated actions planned for implementation during this permit term.

4. Bacterial TMDLs.

a. If the permittee is an approved VSMP authority, the permittee shall select and implement at least three of the strategies listed in Table 5 below designed to reduce the load of bacteria to the MS4. Selection of the strategies shall correspond to sources identified in Part II B 3 d.

b. If the permittee is not an approved VSMP authority, the permittee shall select at least one strategy listed in Table 5 below designed to reduce the load of bacteria to the MS4 relevant to sources of bacteria applicable within the MS4 regulated service area. Selection of the strategies shall correspond to sources identified in Part II B 3 d.

Table 5
Strategies for Bacteria Reduction Stormwater Control/Management Strategy

Source	Strategies (provided as an example and not meant to be all inclusive or limiting)
Domestic pets (dogs and cats)	Provide signage to pick up dog waste, providing pet waste bags and disposal containers. Adopt and enforce pet waste ordinances or policies, or leash laws or policies. Place dog parks away from environmentally sensitive areas. Maintain dog parks by removing disposed of pet waste bags and cleaning up other sources of bacteria. Protect riparian buffers and provide unmanicured vegetative buffers along streams to dissuade stream access.
Urban wildlife	Educate the public on how to reduce food sources accessible to urban wildlife (e.g., manage restaurant dumpsters and grease traps, residential garbage, feed pets indoors). Install storm drain inlet or outlet controls. Clean out storm drains to remove waste from wildlife. Implement and enforce urban trash management practices. Implement rooftop disconnection programs or site designs that minimize connections to reduce bacteria from rooftops Implement a program for removing animal carcasses from roadways and properly disposing of the same (either through proper storage or through transport to a licensed facility).

Illicit connections or illicit discharges to the MS4	Implement an enhanced dry weather screening and illicit discharge, detection, and elimination program beyond the requirements of Part I E 3 to identify and remove illicit connections and identify leaking sanitary sewer lines infiltrating to the MS4 and implement repairs. Implement a program to identify potentially failing septic systems. Educate the public on how to determine whether their septic system is failing. Implement septic tank inspection and maintenance program. Implement an educational program beyond any requirements in Part I E 1 though E 6 to explain to citizens why they should not dump materials into the MS4.
Dry weather urban flows (irrigations, carwashing,	Implement public education programs to reduce dry weather flows from storm sewers related to lawn and park irrigation practices, carwashing, powerwashing and other nonstormwater flows. Provide irrigation controller rebates.
powerwashing,	Implement and enforce ordinances or policies related to outdoor (etc.) water waste. Inspect commercial trash areas, grease traps, washdown practices, and enforce corresponding ordinances or policies.
Birds (Canadian geese, gulls, pigeons, etc.)	Identify areas with high bird populations and evaluate deterrents, population controls, habitat modifications and other measures that may reduce bird-associated bacteria loading. Prohibit feeding of birds.
Other sources	Enhance maintenance of stormwater management facilities owned or operated by the permittee. Enhance requirements for third parties to maintain stormwater management facilities. Develop BMPs for locating, transporting, and maintaining portable toilets used on permittee-owned sites. Educate third parties that use portable toilets on BMPs for use. Provide public education on appropriate recreational vehicle dumping practices.

5. Local sediment, phosphorus, and nitrogen TMDLs.

   a. The permittee shall reduce the loads associated with sediment, phosphorus, or nitrogen through implementation of one or more of the following:

      (1) One or more of the BMPs from the Virginia Stormwater BMP Clearinghouse listed in 9VAC25-870-65 or other approved BMPs found on the Virginia Stormwater BMP Clearinghouse website;

      (2) One or more BMPs approved by the Chesapeake Bay Program; or

(3) Land disturbance thresholds lower than Virginia's regulatory requirements for erosion and sediment control and post development stormwater management.

b. The permittee may meet the local TMDL requirements for sediment, phosphorus, or nitrogen through BMPs implemented to meet the requirements of the Chesapeake Bay TMDL in Part II A as long as the BMPs are implemented in the watershed for which local water quality is impaired.

c. The permittee shall calculate the anticipated load reduction achieved from each BMP and include the calculations in the action plan required in Part II B 3 f.

d. No later than 36 months after the effective date of this permit, the permittee shall submit to the department the anticipated end dates by which the permittee will meet each WLA for sediment, phosphorus, or nitrogen. The proposed end date may be developed in accordance with Part II B 2.

6. Polychlorinated biphenyl (PCB) TMDLs.

a. For each PCB TMDL action plan, the permittee shall include an inventory of potentially significant sources of PCBs owned or operated by the permittee that drains to the MS4 that includes the following information:

(1) Location of the potential source;

(2) Whether or not the potential source is from current site activities or activities previously conducted at the site that have been terminated (i.e. legacy activities); and

(3) A description of any measures being implemented or to be implemented to prevent exposure to stormwater and the discharge of PCBs from the site.

b. If at any time during the term of this permit, the permittee discovers a previously unidentified significant source of PCBs within the permittee's MS4 regulated service area, the permittee shall notify DEQ in writing within 30 days of discovery.

7. Prior to submittal of the action plan required in Part II B 1, the permittee shall provide an opportunity for public comment proposed to meet the local TMDL action plan requirements for no less than 15 days.

8. The MS4 program plan as required by Part I B of this permit shall incorporate each local TMDL action plan. Local TMDL action plans may be incorporated by reference into the MS4 program plan provided that the program plan includes the date of the most recent local TMDL action plan and identification of the location where a copy of the local TMDL action plan may be obtained.

9. For each reporting period, each annual report shall include a summary of actions conducted to implement each local TMDL action plan.

Part III
Conditions Applicable to All State and VPDES Permits

NOTE: Discharge monitoring is not required for compliance purposes by this general permit. If the operator chooses to monitor stormwater discharges for informational or screening purposes, the operator does not need to comply with the requirements of Parts III A, B, or C.

A. Monitoring.

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitoring activity.

2. Monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this state permit. Analyses performed according to test procedures approved under 40 CFR Part 136 shall be performed by an environmental laboratory certified under regulations adopted by the Department of General Services (1VAC30-45 or 1VAC30-46).

3. The operator shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will ensure accuracy of measurements.

B. Records.

1. Monitoring records and reports shall include:

   a. The date, exact place, and time of sampling or measurements;

   b. The individuals who performed the sampling or measurements;

   c. The dates and times analyses were performed;

   d. The individuals who performed the analyses;

   e. The analytical techniques or methods used; and

   f. The results of such analyses.

2. The operator shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this state permit, and records of all data used to complete the registration statement for this state permit, for a period of at least three years from the date of the sample, measurement, report or request for coverage. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the operator, or as requested by the board.

C. Reporting monitoring results.

1. The operator shall submit the results of the monitoring as may be performed in accordance with this state permit with the annual report unless another reporting schedule is specified elsewhere in this state permit.

2. Monitoring results shall be reported on a discharge monitoring report (DMR); on forms provided, approved or specified by the department; or in any format provided that the date, location, parameter, method, and result of the monitoring activity are included.

3. If the operator monitors any pollutant specifically addressed by this state permit more frequently than required by this state permit using test procedures approved under 40 CFR Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this state permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the department.

4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this state permit.

D. Duty to provide information. The operator shall furnish within a reasonable time, any information that the board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this state permit or to determine compliance with this state permit. The board, department, or EPA may require the operator to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of surface waters, or such other information as may be necessary to accomplish the purposes of the CWA and Virginia Stormwater Management Act. The operator shall also furnish to the board, department, or EPA upon request, copies of records required to be kept by this state permit.

E. Compliance schedule reports. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this state permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized stormwater discharges. Pursuant to § 62.1-44.5 of the Code of Virginia, except in compliance with a state permit issued by the department, it shall be unlawful to cause a stormwater discharge from a MS4.

G. Reports of unauthorized discharges. Any operator of a small MS4 who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance or a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302, or § 62.1-44.34:19 of the Code of Virginia that occurs during a 24-hour period into or upon surface waters or who discharges or causes or allows a discharge that may reasonably be expected to enter surface waters shall notify the department of the discharge immediately upon discovery of the discharge, but in no case later than within 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the department within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;

2. The cause of the discharge;

3. The date on which the discharge occurred;

4. The length of time that the discharge continued;

5. The volume of the discharge;

6. If the discharge is continuing, how long it is expected to continue;

7. If the discharge is continuing, what the expected total volume of the discharge will be; and

8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this state permit.

Discharges reportable to the department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of unusual or extraordinary discharges. If any unusual or extraordinary discharge including a "bypass" (Part III U) or "upset," (Part III V), should occur from a facility and the discharge enters or could be expected to enter surface waters, the operator shall promptly notify, in no case later than within 24 hours, the department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. The operator shall reduce the report to writing and shall submit it to the department within five days of discovery of the discharge in accordance with Part III I 2. Unusual and extraordinary discharges include any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;

2. Breakdown of processing or accessory equipment;

3. Failure or taking out of service some or all of the facilities; and

4. Flooding or other acts of nature.

I. Reports of noncompliance. The operator shall report any noncompliance which may adversely affect surface waters or may endanger public health.

1. An oral report to the department shall be provided within 24 hours from the time the operator becomes aware of the circumstances. The following shall be included as information that shall be reported within 24 hours under this subdivision:

   a. Any unanticipated bypass; and

   b. Any upset that causes a discharge to surface waters.

2. A written report shall be submitted within five days and shall contain:

   a. A description of the noncompliance and its cause;

   b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and

   c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The department may waive the written report on a case-by-case basis for reports of noncompliance under Part III I if the oral report has been received within 24 hours and no adverse impact on surface waters has been reported.

3. The operator shall report all instances of noncompliance not reported under Part III I 1 or 2, in writing, as part of the annual reports that are submitted. The reports shall contain the information listed in Part III I 2.

   NOTE: The reports required in Part III G, H, and I shall be made to the department. Reports may be made by telephone, email, or fax. For reports outside normal working hours, leaving a recorded message shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Management maintains a 24-hour telephone service at 1-800-468-8892.

4. Where the operator becomes aware of a failure to submit any relevant facts, or submittal of incorrect information in any report, including a registrations statement, to the department, the operator shall promptly submit such facts or correct information.

J. Notice of planned changes.

1. The operator shall give notice to the department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The operator plans an alteration or addition to any building, structure, facility, or installation that may meet one of the criteria for determining whether a facility is a new source in 9VAC25-870-420:

   b. The operator plans an alteration or addition that would significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this state permit; or

2. The operator shall give advance notice to the department of any planned changes in the permitted facility or activity that may result in noncompliance with state permit requirements.

K. Signatory requirements.

1. Registration statement. All registration statements shall be signed as follows:

   a. For a corporation: by a responsible corporate officer. For the purpose of this chapter, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

   c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this chapter, a principal executive officer of a public agency includes:

(1) The chief executive officer of the agency, or

(2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

2. Reports and other information. All reports required by state permits, including annual reports, and other information requested by the board or department shall be signed by a person described in Part III K 1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Part III K 1;

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the operator. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

   c. The signed and dated written authorization is submitted to the department.

3. Changes to authorization. If an authorization under Part III K 2 is no longer accurate because a different individual or position has responsibility for the overall operation of the MS4, a new authorization satisfying the requirements of Part III K 2 shall be submitted to the department prior to or together with any reports, or information to be signed by an authorized representative.

4. Certification. Any person signing a document under Part III K 1 or 2 shall make the following certification:

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

L. Duty to comply. The operator shall comply with all conditions of this state permit. Any state permit noncompliance constitutes a violation of the Virginia Stormwater Management Act and the Clean Water Act, except that noncompliance with certain provisions of this state permit may constitute a violation of the Virginia Stormwater Management Act but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for state permit termination, revocation and reissuance, or modification; or denial of a state permit renewal application.

The operator shall comply with effluent standards or prohibitions established under § 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this state permit has not yet been modified to incorporate the requirement.

M. Duty to reapply. If the operator wishes to continue an activity regulated by this state permit after the expiration date of this state permit, the operator shall submit a new registration statement at least 90 days before the expiration date of the existing state permit, unless permission for a later date has been granted by the board. The board shall not grant permission for registration statements to be submitted later than the expiration date of the existing state permit.

N. Effect of a state permit. This state permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State law. Nothing in this state permit shall be construed to preclude the institution of any legal action under, or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by § 510 of the Clean Water Act. Except as provided in state permit conditions on "bypassing" (Part III U), and "upset" (Part III V) nothing in this state permit shall be construed to relieve the operator from civil and criminal penalties for noncompliance.

P. Oil and hazardous substance liability. Nothing in this state permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties to which the operator is or may be subject under §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law or § 311 of the Clean Water Act.

Q. Proper operation and maintenance. The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed or used by the operator to achieve compliance with the conditions of this state permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by the operator only when the operation is necessary to achieve compliance with the conditions of this state permit.

R. Disposal of solids or sludges. Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering surface waters and in compliance with all applicable state and federal laws and regulations.

S. Duty to mitigate. The operator shall take all reasonable steps to minimize or prevent any discharge in violation of this state permit that has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to halt or reduce activity not a defense. It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this state permit.

U. Bypass.

1. "Bypass," as defined in 9VAC25-870-10, means the intentional diversion of waste streams from any portion of a treatment facility. The operator may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of Part III U 2 and U 3.

2. Notice.

   a. Anticipated bypass. If the operator knows in advance of the need for a bypass, the operator shall submit prior notice to the department, if possible at least 10 days before the date of the bypass.

   b. Unanticipated bypass. The operator shall submit notice of an unanticipated bypass as required in Part III I.

3. Prohibition of bypass.

   a. Except as provided in Part III U 1, bypass is prohibited, and the board or department may take enforcement action against an operator for bypass, unless:

      (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

      (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

      (3) The operator submitted notices as required under Part III U 2.

   b. The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the three conditions listed in Part III U 3 a.

V. Upset.

1. An "upset," as defined in 9VAC25-870-10, means an exceptional incident in which there is unintentional and temporary noncompliance with technology based state permit effluent limitations because of factors beyond the reasonable control of the operator. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based state permit effluent limitations if the requirements of Part III V 4 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

3. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

4. An operator who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the operator can identify the causes of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The operator submitted notice of the upset as required in Part III I; and

d. The operator complied with any remedial measures required under Part III S.

5. In any enforcement proceeding the operator seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and entry. The operator shall allow the department as the board's designee, EPA, or an authorized representative (including an authorized contractor), upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the operator's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this state permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this state permit;

3. Inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this state permit; and

4. Sample or monitor at reasonable times, for the purposes of ensuring permit compliance or as otherwise authorized by the Clean Water Act and the Virginia Stormwater Management Act, any substances or parameters at any location.

For purposes of this subsection, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. State permit actions. State permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the operator for a state permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any state permit condition.

Y. Transfer of state permits.

1. State permits are not transferable to any person except after notice to the department. Except as provided in Part III Y 2, a state permit may be transferred by the operator to a new operator only if the state permit has been modified or revoked and reissued, or a minor modification made, to identify the new operator and incorporate such other requirements as may be necessary under the Virginia Stormwater Management Act and the Clean Water Act.

2. As an alternative to transfers under Part III Y 1, this state permit may be automatically transferred to a new operator if:

a. The current operator notifies the department at least 30 days in advance of the proposed transfer of the title to the facility or property;

b. The notice includes a written agreement between the existing and new operators containing a specific date for transfer of state permit responsibility, coverage, and liability between them; and

c. The department does not notify the existing operator and the proposed new operator of its intent to modify or revoke and reissue the state permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part III Y 2 b.

Z. Severability. The provisions of this state permit are severable, and if any provision of this state permit or the application of any provision of this state permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this state permit, shall not be affected thereby.

APPENDIX G

Town of Dumfries
Department of Public Works
17739 Main Street
Dumfries, VA 22026
703-221-3400

EROSION AND SEDIMENT CONTROL PROCEDURE FOR ENFORCEMENT

Project address: _____ Permit number: _____

Purpose and Intent:

The following procedures have been established to ensure consistent and timely enforcement action when land disturbance activities do not meet the requirements set forth in the Virginia and Sediment Control Handbook, 1992 3rd Edition and the Town of Dumfries Erosion & Sediment Control Ordinance, Chapter 26 Article IV. The procedures contained within this document are to be administered without exception by the Town staff and reflect the critical nature, severity of the offense and potential impacts caused by the cited non-compliance. **A copy of this document shall be provided to the responsible party, that is, the landowner or the assignee at all Pre-Construction Meetings.** Where such meetings have already been conducted prior to the development and implementation of these Enforcement Procedures, a copy shall be attached to the first Inspection Report prepared for the subject land disturbing activity or a copy shall be mailed to the responsible party. The responsible party shall sign a certification of receipt and acknowledgement of the procedures and penalties set forth in the Enforcement Procedures.

Procedures for Non-Compliance Enforcement:

This procedure shall be used to cite and enforce erosion and sediment control requirements for land disturbance activities in areas of non-compliance. These areas include but not limited to public safety hazards; inadequate silt fence, diversion dikes, construction entrances, inlet and tree protections, dust control; failing sediment basins and traps due to lack of maintenance or improper installation; improperly installed or maintained stream crossings; exceeding approved disturbed area limits in sensitive and preservation areas, such as wetland and Chesapeake areas; potential impacts to off-site property; failure to meet stabilization timelines. The following enforcement procedure and accompanying timelines shall be used in these non-compliance situations:

1. An **Inspection Report** shall be prepared providing a detailed description of the non-compliance issue and required remediation action. The Inspector Report shall specify that corrective action must be completed within seven (7) working days or a Notice to Comply shall be issued. This report shall be delivered to and signed by the responsible party to document receipt of the report. In the event that the report must be faxed to the responsible party, a copy of the transmittal report shall be attached to the file copy of the inspection report.

2. A **Notice to Comply** shall be issued immediately if the required corrective action as documented in the Inspection Report has not been executed within the timeline of the seven (7) working days. A Notice to Comply shall specify that the corrective action must be completed within three (3) working days or a Stop Work Order will be issued. This document shall be delivered to and signed by the responsible party. In the event that the report must be faxed to the responsible party, a copy of the transmittal report shall be attached to the file copy of the Inspection Report and Town staff shall telephone the responsible party to verify receipt.

3. A **Stop Work Order** shall be issued in the event that the responsible party has not met the corrective action requirements set forth in the Notice to Comply. The immediate issuance of a Stop Work Order specifying the corrective action that shall be commencing within twenty four (24) hours or legal action may be taken by the Town. In doing so, the land disturbance permit shall be revoked. All Stop Work Order shall remain in effect until the corrective work is done. When the violation is corrected, the Stop Work Order shall be lifted.

Comments:_____
_____
_____
_____
_____

Signature of Inspector: _____Date:_____

Signature of Owner/Authorized Representative: _____Date:_____

Town of Dumfries

EASEMENT AND MAINTENANCE AGREEMENT

THIS EASEMENT AND MAINTENANCE AGREEMENT is made as of the _____ day of _____, 20 _____ by _____ (the "Owner") and the TOWN OF DUMFRIES, VIRGINIA (the "Town").

RECITALS

WHEREAS, _____is the Owner of that _____acre parcel of land located at _____in Richmond, Virginia, and described as _____ in y the deed recorded at the Prince William County Circuit Court Clerks Office in Deed Book _____at Page,_____and/or as instrument # _____ (the "Property") and

WHEREAS, a Site Plan/Subdivision Plat prepared by _____,dated _____ and entitled _____ has been approved or submitted for approval by the Town (the "Plan") and

WHEREAS, said Site Plan/Subdivision Plat provides for a detention/retention facility and other drainage or permanent erosion and sediment control measures and improvements within the confines of the property (the “Facilities") the description of work as follows _____ _____ _____ _____ _____ and

WHEREAS, the Town requires that the Facilities as shown on the Plan prepared by _____ _____, dated _____ and designated _____ _____ be constructed and adequately maintained by the Owner;

NOW THEREFORE, in consideration of the obligations mutually undertaken herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

AGREEMENT

1. This Agreement shall be binding on the parties, their administrators, executors, successors, heirs, assigns and agents.

2. Indefinitely and at all times, the Facilities as shown on the Plan shall be maintained in good working order acceptable to the Town.

3. The maintenance of detention/retention ponds shall include but not be limited to: (1) planting and maintaining a vegetative cover on the slopes surrounding the pond, (2) maintaining all outflow devices in good working order and repairing and replacing them when necessary, (3) removing silt and other debris so as to maintain the elevation of the bottom of the facility as shown on the approved plans, and (4) to maintain the slopes of the Facilities sides as shown on the approved plans.

4. The Owner hereby grants, bargains and conveys to the Town an easement over the Property to take whatever steps it deems necessary to maintain the Facilities. This easement may only be exercised by the Town in the event that the Owner fails to correct defects or does not commence action necessary to correct any defects to the good working order of the Facilities within fourteen (14) days after written notice of such defects to Owner.

5. In the event Owner fails to correct any defects or commence the correction of such defects to the good working order of the Facilities within fourteen (14) days after written notice of such defects to Owner, the Town may enter upon the Property and take whatever steps it deems necessary to maintain said Facilities. It is expressly understood and agreed that the Town is under no obligation to maintain or repair the Facilities and in no event shall this Agreement be construed to impose any such obligation on the Town.

6. In the event of an emergency involving the Facilities, as determined by the Director of Public Works, the Town, at its option, may enter immediately upon the property and take whatever steps it deems necessary to meet the emergency. Alternatively, the Town may notify the owner by phone at _____, to take whatever action is necessary within a specified period of time. Should the Owner fail to respond, or should the owner inform the Town that it intends not to respond within the specified period of time, the Town may, at its option, enter immediately upon the land and take whatever steps it deems necessary to meet the emergency.

7. The Town shall not pay any compensation at any time for its use of the Property in any way necessary for the inspection and maintenance of the facility, including access to the facility.

8. In the event the Town, pursuant to this Agreement performs work or expends any funds necessary for the maintenance of the Facilities, including labor, equipment, supplies and materials, the Owner shall reimburse the Town, within ten (10) days after the Town gives the Owner written notice of such expenditures.

9. The Owner, its executors, administrator, assigns and any other successors in interest, shall indemnify and hold harmless the Town and its agents and employees for any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the Town arising out of or resulting from the construction, presence, existence or maintenance of the Facilities by the Owner or the Town.

10. In the event a claim is asserted against the Town, its agents or employees, the Town shall promptly notify the Owner and the Owner shall defend at its own expense any suit based on such claim. If any judgment or claim against the Town, its agents or employees shall be allowed, the Owner shall pay all costs and expenses immediately.

11. This Agreement shall be recorded in the Prince William County Circuit Court Clerks office, shall constitute a covenant running with the land, and shall be binding upon its administrators, executors, assigns, heirs and any other successors in interest.

12. All notices herein shall be in writing and shall be hand delivered to the parties or sent by registered or certified mail, return receipt requested, postage paid, addressed to the parties as follows:

To the Town:	Director of Public Works 17739 Main Street Dumfries, VA 22026
With copy to:	Town of Dumfries Attorney 17739 Main Street Dumfries, VA 22026
To Owner:	_____
	_____
	_____
With copy to:	_____
	_____

Such notice shall be deemed to have been given upon hand delivery or upon deposit in the mail as aforesaid. Any change of persons or addresses shall be provided in the aforesaid manner.

13. Any amounts owed to the Town and not paid within ten (10) days of the date of notification shall be the joint and several obligations of all the successors in interest of the Owner. The full amounts owed shall be liens on the Property and on each and every portion of the Property. Liens shall be recorded by the Prince William County Assessor in the Lien Book, which shall be maintained in a location designated by the Prince William County Assessor and accessible to the public.

WITNESS the following signatures and seals.

By: _____

_____
Name Title

COMMONWEALTH OF VIRGINIA
TOWN/COUNTY OF _____, to wit

The foregoing instrument was acknowledged before me, the undersigned notary public by _____ on this ____ day of _____, 20____.

_____
Notary Public

My commission expires:_____

The foregoing deed of easement from _____ is hereby accepted the _____ day of _____, 20____, pursuant to authority granted by Section 26-42 of the 2005 Richmond Town Code.

TOWN OF DUMFRIES

By_____
Town Attorney

Prepared and approved as to form:

_____

GRANTEE ADDRESS:
Department of Public Works
17739 Main Street
Dumfries, VA 22026

APPENDIX H

Post-Construction Stormwater Management Program Manual

Programmatic Overview of Post- Construction Stormwater Management Program and Process

Town of Dumfries, Virginia

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APPENDICES

Appendix A: TOD Post-Construction Stormwater Facility Inspection Forms

ACRONYMS

BMP	Best Management Practice
CH	Virginia BMP Clearinghouse
CPESC	Certified Professional in Erosion and Sediment Control
CWA	Clean Water Act
DEQ	Virginia Department of Environmental Quality
EPA	Environmental Protection Agency
IDDE	Illicit Discharge Detection and Elimination
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program

1.0 INTRODUCTION AND PURPOSE

Land development disturbs stable vegetated landscapes and increases impervious area, which in turn increases the stormwater runoff that leaves an area. Development increases pollutant concentrations in runoff, as pollution associated with development is deposited onto disturbed surfaces and carried by runoff into nearby water bodies. Such pollutants include sediment, suspended solids, nutrients, pesticides, herbicides, heavy metals, chlorides, hydrocarbons, other organics, and bacteria. To remove pollutants from stormwater runoff, structures are installed to filter, slow, and treat drainage using various processes. These stormwater structures are called Best Management Practices, commonly referred to as BMPs. They are designed to reduce flooding, remove pollutants and decrease the amount of runoff from stormwater that ultimately flows to our creeks, streams, and rivers. Ensuring that these facilities function correctly requires long-term maintenance and inspections.

This manual presents the standard protocol for Post-Construction Stormwater Management for the typical operations and facilities that relate to water quality. As a regulated small municipal separate storm sewer system (MS4), the Town of Dumfries (Town) is obligated to meet the requirements of the MS4 General Permit. The MS4 Permit is issued through Virginia's Stormwater Management Program (VSMP) regulations, which is administered at the state level by the Virginia Department of Environmental Quality (DEQ). The MS4 program is part of the Federal National Pollutant Discharge Elimination System (NPDES), which is authorized through the Clean Water Act and regulated through the US Environmental Protection Agency (EPA).

In accordance with the MS4 Permit, the Town must "develop, implement, and enforce an MS4 program designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP)." This Post-Construction Stormwater Management Manual has been developed as Minimum Control Measure 6 as described in the MS4 Permit. The Post-Construction Stormwater Management program, which is a series of written procedures in this manual, ensures adequate long-term operation and maintenance of BMPs for the Town.

The Town's Post-Construction Stormwater Management Program includes three distinct components:

- **Documentation** – Procedures to document all efforts related to the Post-Construction Stormwater Management process are outlined in Section 2.0 of this manual.
- **Inspections –** A description of Post-Construction Stormwater Management facility types and a description of the components involved in the inspections process are outlined in Section 4.0 of this manual. Information and procedures for the Post-Construction Stormwater Management Facility Inspections are outlined in Section 5.0 of this manual. The stormwater facility mapping, BMP inventory, inspections forms and new facility forms can be found in the Appendices.
- **Maintenance**– A description of the typical maintenance that is performed on the facilities is outlined in Section 6.0 of this manual.

2.0 DOCUMENTATION REQUIREMENTS

Documentation of Post-Construction Stormwater Management is critical for demonstrating compliance with the MS4 permit. All documentation related to post-construction stormwater management is required to be keep for a minimum of 3 years for annual reporting and potential audits.

2.1 Inspection Forms

Inspections are a necessary and important part of the Post-Construction Stormwater Management Program. The inspection forms will provide the necessary documentation to demonstrate when and what is being inspected. This Manual includes an inspection form for the predominant type of stormwater facilities that currently exist within the Town that include detention, pervious pavers, and extended detention. Inspection forms for other types of facilities, when needed, can be found within the Virginia Stormwater Management Handbook, latest edition. For proprietary stormwater practices, the manufacturer specifications for inspection and maintenance should be utilized for inspections.

The inspections forms are intended to provide documentation that the facilities were inspected on an annual basis and that any maintenance items were noted. A follow-up inspection should be completed after every noted deficiency with the following information:

- ✓ Facility Number
- ✓ Date of initial inspection
- ✓ Date corrective maintenance performed
- ✓ Description of corrective maintenance performed

2.2 Annual Reporting to DEQ

The Town must annually report to the DEQ information pertaining to its Post-Construction Stormwater management efforts. The information is included in the overall MS4 annual report due October 1st of each year. Salem must maintain an electronic database or spreadsheet to be submitted annually that includes the following information:

1. The stormwater management facility type;
2. A general description of the facility's location, including the address or latitude and longitude;
3. The acres treated by the facility, including total acres, as well as the breakdown of pervious and impervious acres;
4. The date the facility was brought online (MM/YYYY). If the date is not known, the operator shall use June 30, 2009, as the date brought online for all previously existing stormwater management facilities;
5. The sixth order hydrologic unit code (HUC) in which the stormwater management facility is located;
6. The name of any impaired water segments within each HUC listed in the 2010 §305(b)/303(d) Water Quality Assessment Integrated Report to which the stormwater management facility discharges;
7. Whether the stormwater management facility is publicly owned or privately-owned;
8. Whether a maintenance agreement exists if the stormwater management facility is privately owned;
9. The date of the operator's most recent inspection of the stormwater management facility; and
10. Annually track and report the total number of inspections completed and, when applicable, the number of enforcement actions taken to ensure long-term maintenance.

2.3 Program Updates and Modifications

Modifications to the post-construction stormwater management program may occur as part of an iterative process to protect water quality. Updates and modifications to the Program may be made in accordance with the following procedures:

- Adding (but not eliminating or replacing) practices to the post-construction stormwater management Program outlined in this manual may be made by the Town at any time. Additions shall be reported as part of the annual report.
- Updates and modifications to the post-construction stormwater management Program described in this manual are permitted provided that the updates and modifications are done in a manner that:
  - Is consistent with the conditions of the MS4 General Permit;
  - Follow any public notice and participation requirements established in the MS4 General Permit; and
  - Are documented in the annual report.
- Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies, and practices described in this manual with alternate strategies, policies, and BMPs may be requested at any time. Such requests must include the following:
  - An analysis of how or why the practices, strategies, or policies are ineffective or infeasible, including cost prohibitive;
  - Expectations on the effectiveness of the replacement practices, strategies, or policies;
  - An analysis of how the replacement BMPs are expected to achieve the goals of the practices to be replaced;
  - A schedule for implementing the replacement practices, strategies, and policies;
  - An analysis of how the replacement strategies and policies are expected to improve The Town's ability to meet the goals of the strategies and policies being replaced;
  - Requests or notifications must be made in writing to DEQ and signed by a principle executive officer or a duly authorized representative. The duly authorized representative must have overall responsibility of Town operations and written authorization must be provided to the Department.
  - Salem follows the public involvement requirements identified in the MS4 General Permit.

3.0 STORMWATER MANAGEMENT FACILITIES

This section describes the types of BMP's and their general layout and function. If additional BMPs are added that differ in type, the manual will require updates for compliance.

The type of Private stormwater facilities that can be found are mostly Dry Detention and Retention Ponds. An explanation of these BMP types and key components of each are included in the sub-sections below. Inventory of individual Town owned BMPs is maintained by the Director of Public Works or designee and should be utilized and updated for tracking inspection and maintenance of stormwater facilities.

3.1.1 Bioretention

Bioretention facilities are shallow landscaped depressions that incorporate many of the pollutant removal mechanisms that operate in our natural environment. The primary component of a bioretention practice is the filter bed, which has a mixture of sand, soil, and organic material as the filtering media in the ground with a surface mulch layer. During storms, runoff temporarily ponds 6 to 12 inches above the mulch layer and then rapidly filters through the bed. Normally, the filtered runoff is collected in an underdrain and returned to the storm drain system or receiving channel. The underdrain consists of a perforated pipe in a gravel layer installed along the bottom of the filter bed. Bioretention facilities can also be designed to infiltrate runoff into native soils without an underdrain. This can be done at sites with permeable soils, a low groundwater table, and a low risk of groundwater contamination. The second most critical component of bioretention facilities is the landscaping plan and plantings. The plantings are designed specific to the site and facility and they remove and store pollution. Small residential applications of bioretention are termed rain gardens.

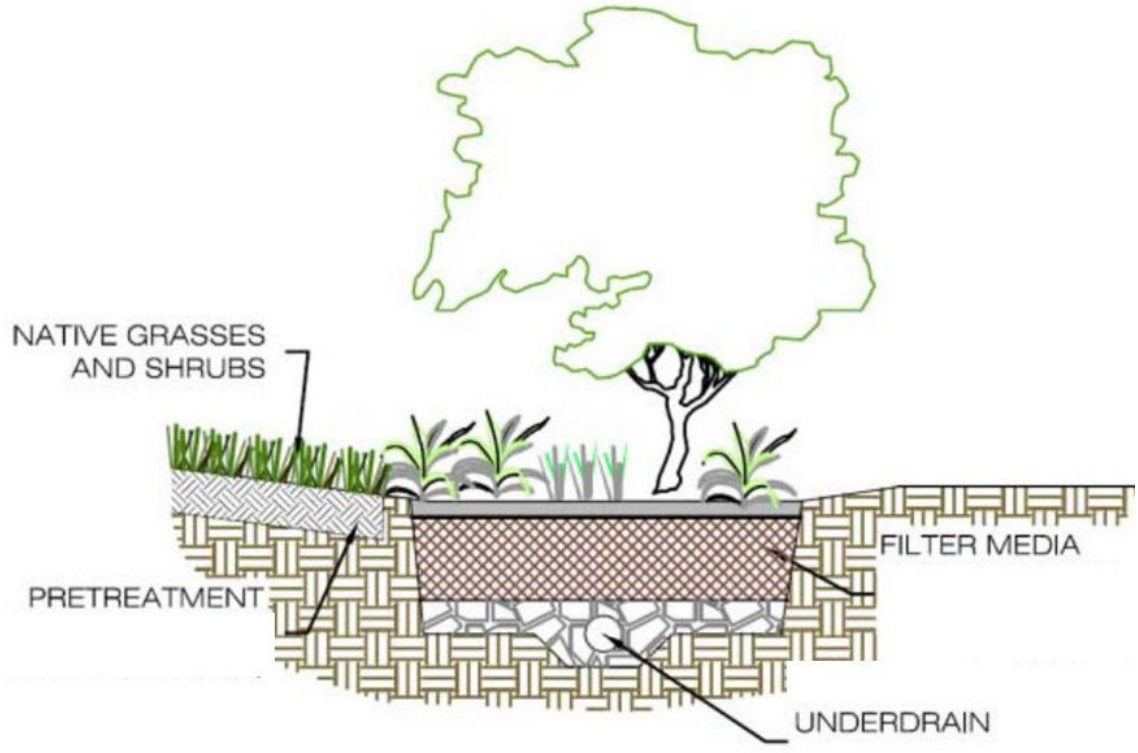


Figure 1: Typical Bioretention Facility Schematic

3.1.2 Dry Detention

These basins have at least one inflow channel, an embankment/dam, a bottom level orifice, sometimes a riser in the basin, a principal spillway structure to route drainage through the dam, and an outlet structure. These basins do not have a normal pool and remain dry except during and shortly after storm events. Some extended detention facilities may have a wet marsh with plantings in the bottom for additional pollutant removal. On rare occasions the extended detention basin may be designed to have a wet normal pool, in which case verification with the design plans may be necessary.

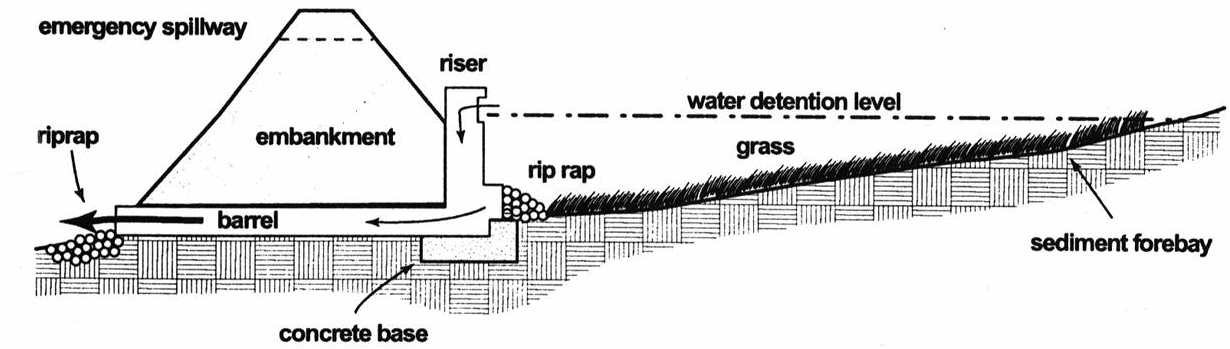


Figure 2: Typical Dry Detention Basin Schematic.

3.1.3 Retention

These basins have at least one inflow channel, an embankment/dam, typically a riser in the basin although not always, a principal spillway structure to route the drainage through the embankment, and an outlet structure. Wet ponds consist of a permanent pool of standing water that promotes pollution removal and reduces flooding. Retention basins can also be dry facilities which would mimic the dry detention schematic above. Runoff from each storm enters the pond and raises the normal water level, and the outlet structure releases the drainage at a slower rate over a longer period of time. This "draw down" or holding time allows pollutants to settle out of the stormwater and lessens the impact of the flow volume on the outlet channel.

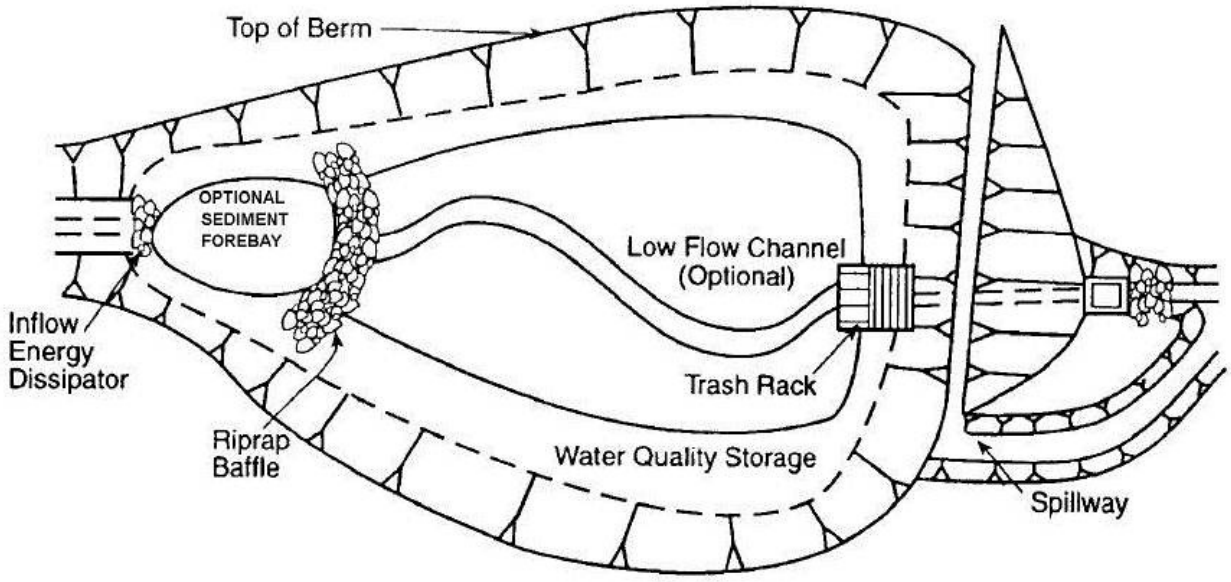
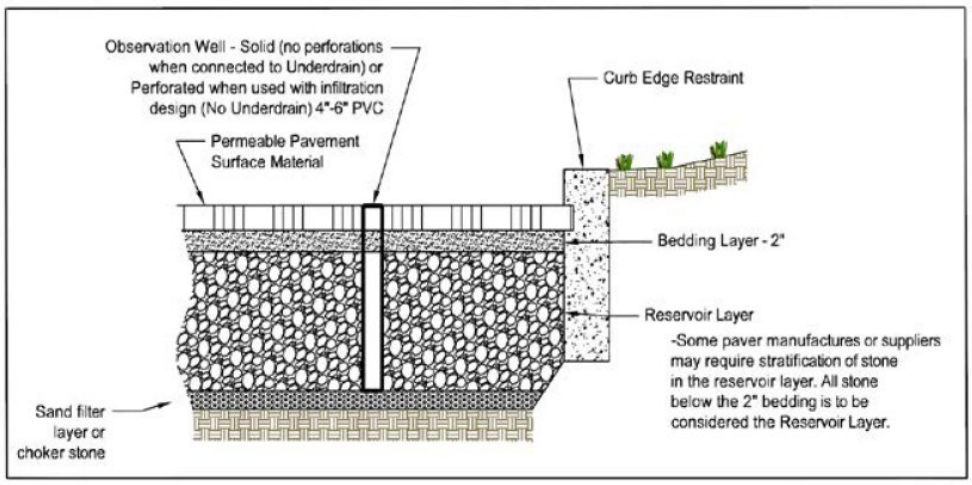


Figure 4: Typical Retention Facility Schematic Top View

3.1.4 Permeable Pavement

Permeable pavements are alternative paving surfaces that allow stormwater runoff to filter through voids in the pavement surface into an underlying stone reservoir, where it is temporarily stored and/or infiltrated. A variety of permeable pavement surfaces are available, including pervious concrete, porous asphalt and permeable grid pavers and interlocking concrete pavers. While the specific design may vary, all permeable pavements have a similar structure, consisting of a permeable surface pavement layer, an underlying stone aggregate reservoir layer and a filter layer or fabric installed on the bottom.



Source: https://swbmpvwrrc.wp.prod.es.cloud.vt.edu/wp-content/uploads/2018/07/BMP_Spec_No_7_PERMEABLE_PAVEMENT.pdf

Figure 4: Permeable Paver Cross Section

4.0 INSPECTION FORMS

Inspection forms are an integral part of the Post-Construction Stormwater Management program and provide documentation that the inspection took place. The following sub-sections are intended to provide a description of headings and components found in the inspection forms located in Appendix A.

4.1 DEQ Stormwater Inspector Certification

Individuals performing inspection of stormwater management facilities for the Town are required to maintain a Stormwater Inspector Certification from DEQ. Information regarding the certification requirements is available at the DEQ Stormwater Certification webpage.

4.2 Inspection Frequency

The MS4 Permit requires an annual inspection of all Town of Dumfries owned stormwater management facilities and inspections every five years for privately owned stormwater management facilities. Currently, the Town is inspecting all BMPs annually. In addition to the annual inspections, the Virginia Stormwater Management Program and regulations require a stormwater facility inspection after any storm event that exceeds the principal spillway, or more specifically, whenever the emergency spillway is engaged. The inspection requirements are in the BMP Clearinghouse. Inspection should utilize the forms in Appendix A.

4.3 Stormwater Management Facility Information

This describes general information found on the inspection form in Appendix A.

- "Owner": The owner of the facility.
- "Facility Name": This is the name of the facility on the Inventory List and the site mapping
- "Property Address": Address where the facility is located.
- "Date BMP Placed in Service" The date the BMP became functional and was accepted as complete post construction. This is typically at bond release.
- "Latitude (N)" is the GPS latitude reading of the top of the dam at or above the principal spillway.
- "Longitude (W)" is the GPS longitude reading at the top of the dam or above the principal spillway.
- "As-Built Plans Available": Are the original As-Built plans available for reference? Indicate yes or no.
- **"**Inspection Date": The date the inspection took place.
- "Date of Last Inspection": The date the last inspection took place.
- **"**Inspector(s)": The name of the inspector performing the inspection.
- "Contact Information": Contact information for the inspector. Phone numbers and/or email addresses are appropriate.

4.4 Inspection Criteria

The inspection form in Appendix A is designed so that individual components of the stormwater facility are inspected for specific issues. Each numbered heading is a different component of the facility. The lettered items list the issues to evaluate for that are specific to that component of the facility. Facilities may not have all components listed.

Each of the inspection component criteria are rated as either "Yes," they need repairs, or "No," they do not need repairs. Recommend maintenance actions based on design plans for the facility, actions recommended in the Virginia Stormwater Management handbook or follow the recommended

maintenance actions described in the "Maintenance action" column. Further information on maintenance recommendations for various stormwater BMPs can be found at the Virginia BMP Clearinghouse at *http://www.vwrrc.vt.edu/swc/NonProprietaryBMPs.html*.

4.4.1 Contributing Drainage Area

The contributing drainage area includes any lands that drain to the facility, both onsite and offsite. These areas should be examined as a potential source of trash, debris, or erosion that affects the functionality of the BMP. Eliminating the source of the issue is essential and works as a preventative measure to ensure long term functionality of the BMP.

4.4.2 Pretreatment

Pretreatment is the initial structure through which stormwater drainage is routed before it enters the main BMP facility. It serves as a preliminary filter to remove silt and sediment that will impact the main system. As a result, the pretreatment structures require cleaning more often than the facility itself. If there are significant amounts of sediment or growth in the pretreatment structure, it cannot store and filter the volume of flow it was designed for and therefore cannot fully function.

4.4.3 Inlets

Inlets route flow into the BMP facility for treatment from the contributing drainage area. Some issues in the inflow system may indicate upstream issues that are being transported to the facility. Inlets should be stable to properly function and not create additional impacts to the BMP facility, such as debris or sediment that may hinder access to the wetland plant system.

4.4.4 Sediment Forebay

A sediment forebay is a pretreatment structure that traps debris, trash, sediment, and other pollutants from entering the BMP. Sediment must be cleaned out once the level in the forebay reaches 50% of the capacity. This is usually indicated on a stake placed in the forebay during construction to measure that level.

4.4.5 Vegetation

A main design component for several types of BMPs is the planting plan, which is designed by a professional. The facility's plantings should match the design plans for the number and species of plants present. Having more plants than what is shown on the plans is acceptable as long as it is not an invasive species and/or the overgrowth is not impacting the storage volume and the facility's ability to drain. Checking the general planting location in the facility is also helpful. For example, if there is a section of plants adjacent to a road shoulder that is dying, it may be indicative of contaminated runoff. De-icing salts on the roads is an example of this. Vegetation should be replaced in accordance with the approved plans, or permission for an equivalent replacement species granted.

4.4.6 Emergency Spillway

The emergency spillway is a channel that conveys stormwater during large storm events from the facility to an outfall, usually the same one as the principle spillway or main outlet. It prevents the facility from overtopping during the large storm events. Not all facilities have an emergency spillway. Spillways can be lined with various materials including grass with or without erosion control matting, rip-rap, or concrete, based on the flow rate. The spillway is usually visible as a low spot a minimum of 1' below the top of embankment off to one side. Consult the design plans for additional details.

4.4.7 Outfall
The outfall channel is the receiving channel for the discharge from the stormwater facility. At the point of discharge there is usually a section of riprap, termed outlet protection, to slow the outflow and dissipate energy to prevent erosion in the channel. The purpose of many stormwater facilities is to protect the downstream channels, and thus a thorough evaluation of the outfall should be conducted.

4.4.8 Outlet
The outlet section refers to the structural end of the BMP system where drainage exits the BMP and enters the receiving channel. The outlet structure engages on all storm events, unlike the emergency spillway that is only used during very large events.

4.4.9 Principle Spillway
The principle spillway is the structure routing flow out of the facility to the receiving channel through the embankment, if present. It can be in the form of a pipe or an open channel. The principle spillway is used in most storm events, unlike the emergency spillway that is only used during very large events. Because this is typically the only conduit through the dam, the functionality and structural integrity of the principle spillway is critical.

4.4.10 Riser
The riser is a vertical structure that connects with the principal spillway pipe to route flows out of the facility. The riser usually has a small opening, or orifice, in the front of it that controls the amount of flow through the system. Thus, the functionality of the riser can have a large impact on the water level in the basin, the outlet system as a whole, and meeting the designed pollutant removal. Damage or deterioration can take the form of rust, cracking, exposed rebar, or additional holes in the structure.

4.4.11 Berm/Embankment
The embankment or berm, also termed a dam, is the fill section that blocks the drainage and holds the water in the facility. The face of the dam is the front side that interacts with the water level and the top, or crown, is the highest flat surface. The downstream side is the back of the dam from the top down to where the fill section meets the natural grade structure (called the “toe” of the dam), typically just below the outlet. Basins outlet on the downstream side, which can be a more problematic area due to the effects of water pressure and saturation on the face and through the embankment. A dug basin, however, will not have all of these components since it is excavated into the existing earth and not created by fill placement. Additionally, roadways are not considered embankments because they typically have culvert pipes through them to convey stormwater effectively but are not designed as a stormwater facilities.

Issues with the embankment can be critical to the function of the facility. Note the conditions related to the principal spillway through the dam, as damage in this area can have a significant impact on facility operation.

4.4.12 Low Flow Orifice
The low flow orifice is the smaller outflow hole, usually in the riser, that meters out the flow and decreases the post-development flows to the receiving channel. The low flow orifice tends to clog because of its size and will typically have a trash rack grate on the front of it.

4.4.13 Pond Drain System

Some facilities have a drainage system to fully raise and lower the water level. This is usually in the form of a gate valve, which is a steel plate that can be raised and lowered to cut off or open up various outlets of the facility. Be sure to exercise them at least yearly to keep them functional.

4.4.14 Miscellaneous

This section captures any other pertinent features or issues of the facility. It evaluates the facility footprint area and general issues such as access. Note any of the criteria needing repair, and include applicable location information for reporting.

5.0 FACILITY MAINTENANCE

The effectiveness of post-construction stormwater control BMPs depends upon regular inspections and maintenance of all aspects of the facility. There are typically two types of BMP maintenance, referred to as routine maintenance and corrective maintenance. Corrective maintenance consists of repairs performed to correct a deficient part of the BMP facility as identified in the inspection. Maintenance action returns the BMP component to the original design conditions for proper function. These activities are further described below.

5.1 Routine Maintenance

Routine maintenance consists of preventative measures that are essential to the ongoing care and upkeep of a BMP facility, and it should be performed regularly to ensure proper function. It helps prevent potential nuisances (odors, mosquitoes, weeds, etc.), reduces the need for corrective maintenance, and reduces the chance of polluting stormwater runoff by identifying and repairing problems before they further deteriorate. The failure of structural stormwater BMPs can lead to downstream flooding, which can cause property damage, injury, and even death. This also leads to very costly repairs. Upon being identified during an inspection, routine maintenance should be conducted within six (6) months of the inspection.

Examples of routine maintenance include:

- Remove any accumulated sediment from the forebays and micro-pools.
- Replace any plantings or vegetation called for in the approved plans that has died or is diseased.
- Repair the stormwater structures for erosion or undercutting as needed.
- Repair any erosion in the facility, including sloughing, animal burrows and slopes.
- Repair any deterioration at the outfall of the facility, including the riprap outlet protection.
- Remove blockages of all trash racks, inlets and outlets.
- Maintain adequate access to the facility and remove woody vegetation as needed.
- Exercise valves to prevent them from locking up where applicable.
- Remove all trash, debris and floatables periodically from the facility.

5.2 Corrective Maintenance

Corrective maintenance is any maintenance that should be addressed for the facility to properly function in accordance with the plans. These items require more intensive repair efforts and should be addressed as a higher priority than routine maintenance. If there are structural deficiencies, or issues that raise the water level in the facility beyond the design requirements, corrective action is required and should be conducted as soon as possible to prevent downstream damage to properties and/or the environment. Upon being identified during an inspection, corrective maintenance should be conducted within one (1) year of the inspection contingent on complexity. Reasonable progress steps should at least be taken.

Examples of Corrective Maintenance include:

- Repair any deterioration or issues with the principal spillway and riser, such as evidence of spalling, joint failure, leakage, corrosion, etc.
- Extensive sediment removal is required when inspections indicate that 50% of the forebay sediment storage capacity has been filled.
- Control or remove invasive species when their coverage exceeds 15% of a wetland cell as soon as possible. Take care to preserve the designed plantings and vegetation.

- All woody vegetation should be removed from the embankment, if present, to prevent structural damage. Additionally, removal of growth should be considered more frequently if there are impacts to the storage volume (i.e. water levels rise because the vegetation is taking up the water storage space).

Further information on maintenance recommendations for various stormwater BMPs can be found at the Virginia BMP Clearinghouse at: *http://www.vwrrc.vt.edu/swc/NonProprietaryBMPs.html*

Appendix A: Town of Dumfries Post-Construction Stormwater Facility Inspection Forms

Note that plans should be referenced for inspection of underground and proprietary BMPs.

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Bioretention

Owner Name:	
Property Address: Street: City: Zip code:	
Date BMP placed in service:	
Site plan/permit number:	As-built plans available: Y N
Date of Inspection:	Date of Last Inspection:
Phone Number:	Email address:

Check all that apply: **Type of Infiltration:** □ **Basin** □ **Trench** □ **Permeable Pavement**

Facility Location:
- □ Surface
- □ Underground

Hydraulic configuration:
- □ On-line facility
- □ Off-line facility

Filtration Media:
- □ No filtration media (e.g. dry well)
- □ Sand
- □ Bioretention soil
- □ Peat
- □ Other:

Type of Pretreatment:
- □ Sediment forebay (above ground)
- □ Check dam
- □ Grass channel
- □ Grass filter strip
- □ Stone diaphragm
- □ Other:
- □ None

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	On-going	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Evidence of clogging		
		Dead vegetation, exposed soil		
		Evidence of erosion		
		Evidence of standing water: ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Inlets	On-going	Inlets provide stable conveyance into facility		
		Presence of invasive species/weeds		
		Dead vegetation/exposed soil		
Filter media	Annually	Filter media is too low, compacted, or the composition is inconsistent with design specifications		Amend media to contain 85-88% sand, 8-12% soil fines, 3-5% organic matter in form of leaf compost
		Mulch is older than 3 years or in poor condition		Mulch shall be removed and replaced every 2-3 years.
		Chemicals, fertilizer and/or oil are present		No dumping of yard wastes into practice. Remove oil/grease from practice immediately.
		Sediments are greater than 20% of design depth		Check plant health, manually remove sediment immediately without damaging plants.
		Exposed/bare soil		Backfill with soil, reseed, and protect area until vegetation is reestablished
		Topsoil is in poor condition, the pH level is not 6-7, the composition is inappropriate		3 inch surface depth of loamy sand or sandy loam texture, with less than 5% clay content, and organic matter content of at least 2%. If the pH is less than 6.5, spread limestone over the practice
		Filter bed is blocked and/or filled inappropriately		Redistribute soil substrate and remove sediments within two weeks.
Underdrain/pea gravel filter	Every 3-5 years	Perforated pipe is not delivering conveyances as designed		Check if pipe is clogged with debris or woody roots have pierced it. Manually clear out or replace pipe immediately.
		Evidence of standing water. Does not dewater between storms. Water ponds on the surface of basin for more than 48 hours after an event		This is an indication that underlying soil interface is clogged. This should be promptly investigated and addressed
Outlet/ overflow spillway	Annually/ after major storms	Evidence of blockage		Determine source of debris and promptly address
		Litter is present within the practice		Remove immediately. Maintain contributing areas free of litter.
Outlet	On-going	Outlets provide stable conveyance out of facility		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Overall	On-going	Maintenance access to facility		
		Condition of structural components		
		Condition of hydraulic control components		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Overall	On-going	Excessive trash/debris/sediment		
		Evidence of erosion		
		Evidence of oil/chemical accumulation		
		Evidence of standing water: ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Warning: If any bioretention facility component has a watertight cover—be careful regarding the possibility of flammable gasses within the facility. Care should be taken lighting a match or smoking while inspecting facilities that are not vented. If the bioretention facility is in a completely enclosed vault the ***OSHA Confined Space Entry*** procedures must be followed.

A customized maintenance schedule must be prepared for each bioretention facility, since the maintenance tasks will differ depending on the scale of bioretention, the landscaping template chosen, and the nature of the surface cover. The above is a general guideline only.

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Constructed Wetlands

Owner Name:		
Property Address: Street: City: Zip code:		
Date BMP placed in service:		
Site plan/permit number:	As-built plans available:	Y N
Date of Inspection:	Date of Last Inspection:	
Phone Number:	Email address:	

Check all that apply:

Type of Wetland:
- □ Extended detention
- □ Ties into groundwater
- □ Pond with some wetland plantings
- □ Multiple pond system

Type of wetland:
- □ Emergent
- □ Forested

Type of Pretreatment facility:
- □ Sediment forebay
- □ Grass filter strip
- □ Other:

Choose one of the following three:
- □ Permanent pool sized for full Tv
- □ Shallow wetland sized for full Tv
- □ Micropool

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	Every 5 years	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Dead vegetation/exposed soil		
		Evidence of erosion		
		Evidence of clogging		
		Sediment accumulation is 50% of capacity, sediment marker not vertical		Dredging is required, fix sediment marker

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Inlets	Twice per year	Inlets provide stable conveyance into system		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
		Cracking, bulging, or sloughing of dam, erosion and/or loss of dam material		Re-stabilize immediately
		Animal burrows		Fill in immediately
		Soft spots or boggy areas; woody growth or unauthorized plantings on dam		Remove within 2 weeks of discovery
Sediment forebay	Every 5 years	Sediment buildup has reduced the fore-bay capacity to 50%		Remove sediment buildup and restore forebay to original design specifications. Designers should also check to see whether removed sediments can be deposited or spread as spoil material on the site or must be hauled away. Sedi-ments excavated from constructed wet-lands are not usually considered toxic or hazardous and can be safely disposed by either land application or land filling.
Vegetation (trees, shrubs, aquatic plants)	Monthly	Plant composition consistent with ap-proved plans.		
		Presence of invasive species/weeds.		
		Dead vegetation/exposed soil		
		Reinforcement planting recommended		
		Bare or eroding areas in the contribut-ing drainage area or around the wetland buffer		Make sure they are immediately stabi-lized with grass cover.
		Trees planted in the buffer and on wet-land islands and peninsulas need water during the first growing season.		Consider watering every 3 days for first month, and then weekly during first year (Apr—Oct), depending on rainfall.
		Poor survival can result from many un-foreseen factors, such as predation, poor plant stock, changes in water lev-els, drought, and many other unpredict-able factors.		Selectively replant portions of the wet-land that fail to fill in or survive.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Vegetation, con't.	Monthly	Designers should expect significant changes in wetland species composition over time. Invasive plants should be dealt with as soon as they colonize the wetland. In general, control of undesirable invasive species such as cattail and Phragmites, should begin when their coverage exceeds 15% of a wetland cell area.		Invasive plants should be dealt with as soon as they colonize the wetland. Vegetation may need to be periodically harvested if the constructed wetland becomes overgrown. Inspections should track changes in wetland plant species distribution over time. Although the application of herbicides is not generally recommended, some types, such as Glyphosate, have been used to control cattails with some success. Extended periods of dewatering may also work.
		Practice has become overgrown and is not developing into a mature wetland.		Thinning or harvesting of excess forest growth may be periodically needed to guide the forested wetland into a more mature state. These operations should be scheduled for about 5 & 10 years after initial wetland construction. Removal of woody species near or on the embankment and maintenance access areas should be conducted every two years.
Emergency Spillway	Every 2 years	Woody growth or unauthorized plantings. Erosion or back cutting, soft or boggy areas, obstruction/debris		Remove immediately
Outfall	Monthly	Woody growth within 5' of outfall barrel		Prune vegetation back to specification
		Outfall channel functioning/released water undercutting outlet, Erosion displaced rip rap, excessive sediment deposits		Stabilize channel. Replace dead/dying vegetation. Replant on bare soil. Replace rip rap.
Outlet	Twice per year	Cracking, bulging, or sloughing of dam, erosion and/or loss of dam material		Re-stabilize immediately
		Animal burrows		Fill in immediately
		Soft spots or boggy areas, woody growth or unauthorized plantings on dam		Remove within 2 weeks of discovery
		Outlets provide stable conveyance out of facility		
		Excessive trash/debris/sediment accumulation at outlet.		
		Evidence of erosion at/around outlet		
Principle spillway	Twice per year	Minor spalling or sparging (<1"). Major spalling (exposed rebar). Joint failure. Loss of joint material. Leaking corrosion. Protective material deficient. Misalignment or split seams/joints.		Amend with new concrete. Replace broken pieces.

BMP Element	Fre-quency	Problem	Yes or No?	Corrective Action
Riser	Annually	Pieces of the riser are broken or missing.		Replace immediately
		Maintenance access to riser		
		Structural condition of the riser		
		Condition of joints		
		Trash/debris accumulation		
Berm/ Embank-ment	On-going	Cracking, bulging or sloughing		
		Soft spots or sinkholes		
		Evidence of erosion		
		Evidence of animal burrows		
		Presence of woody vegetation		
Low flow orifice	On-going	Trash/debris accumulation		
		Adjustable control valve accessible and operational		
Pond drain system (underdrain)	On-going	Adjustable control valve accessible and operational		
		Broken, clogged		
Miscellane-ous	On-going	Maintenance access to facility		
		Condition of structural components		
		Condition of hydraulic control components		
		Excessive trash/debris/sediment		
		Evidences of erosion		
		Evidence of oil/chemical accumulation		
		Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Constructed Wetlands

Owner Name:	
Property Address: Street: City: Zip code:	
Date BMP placed in service:	
Site plan/permit number:	As-built plans available: Y N
Date of Inspection:	Date of Last Inspection:
Phone Number:	Email address:

Type of Pretreatment:

- □ Sediment forebay (above ground)
- □ Check dam
- □ Grass channel
- □ Grass filter strip
- □ Stone diaphragm
- □ Other:
- □ None

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	On-going	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Evidence of clogging		
		Dead vegetation, exposed soil Evidence of erosion		
Inlets	On-going	Inlets provide stable conveyance into system		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Inflow	Monthly	Accumulation of debris and trash		Check inflow points for clogging and remove any sediment
		Erosion		Look for any bare soil or sediment sources in the contributing drainage area and stabilize immediately.
Check Dam	Twice per year	Invasive species contribute 10% of vegetation within the practice.		Unauthorized plants should immediately be removed from BMP and replaced.
		Dam is not functioning properly		Inspect upstream and downstream of check dams for evidence of undercutting, side cutting or erosion. Undermined/ eroded wood condition pea gravel diaphragm at correct level.
		There is a large buildup of sediment/ debris.		If sediment buildup is greater than 25% of original Tv remove immediately. Remove trash or blockages at weep holes.
		Condition of check dams		
Embankment	Monthly	Integrity of all or part of embankment is compromised.		Inspect side slopes and grass filter strips for evidence of any rill or gully erosion, and repair as needed immediately.
Underdrain/ Perforated Pipe	Every 5-7 years	Broken, day lighted, clogged		Immediately remove blockage manually.
		Practice does not dewater within 48 hours after significant rainfall or snowfall		This is evidence that the underdrain may be clogged. Manually clean out the underdrain or use a pressure hose to clear debris.
		Underdrain system (if equipped), broken or clogged		
Vegetation	Monthly	Plant composition consistent with approved plans.		
		Presence of invasive species/weeds		
		Dead vegetation/exposed soil		
		Density and/or health of vegetation do not meet standards. Evidence of die off.		Add reinforcement planting to maintain 95% turf cover and vegetation density. Reseed and salt killed vegetation.
Filter bed/soil	Twice per year	Evidence of braiding, excessive ponding, or dead grass		Remove any accumulated sand or sediment deposits on the filter bed surface or in pretreatment cells. Stabilize soil.
		Accumulation of oil/chemicals		Manually remove immediately
		Pea gravel diaphragm at incorrect level		Supplement as needed immediately
		Accumulation of oil/chemicals		
		Excessive trash/debris/sediment		
		Evidence of erosion		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Filter Bed/soil	Twice per year	Evidence of standing water: ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		
Miscellaneous	On-going	Maintenance access to facility		
		Condition of structural components		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		
Outlet	On-going	Outlets provide stable conveyance out of facility		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

City of Richmond Stormwater Utility
Annual BMP Operation & Maintenance Inspection for Extended Detention Ponds

Owner Name:	
Property Address: Street: City: Zip code:	
Date BMP placed in service:	
Site plan/permit number:	As-built plans available: Y N
Date of Inspection:	Date of Last Inspection:
Phone Number:	Email address:

Check all that apply: **Type of wetland:** □ **Emergent** □ **Forested**

Type of stormwater wetland (check all that apply)
- □ Extended detention
- □ Ties into groundwater
- □ Pond with some wetland plantings
- □ Multiple pond system

Choose one of the following:
- □ Permanent pool sized for full Tv
- □ Shallow wetland sized for full Tv
- □ Micropool

Type of Pretreatment facility:
- □ Sediment forebay
- □ Grass filter strip
- □ Other:

Checklist—Virginia Stormwater Management Handbook, chapter 9

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	Every 5 years	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Evidence of clogging		
		Dead vegetation, exposed soil		
		Evidence of erosion		

Checklist—Virginia Stormwater Management Handbook, chapter 9

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Inflow	Monthly	Inlets provide stable conveyance into facility		
		Excessive trash/debris/sediment accumulation at/around inlet		
		Evidence of erosion at/around inlet		
		Conveyance capacity is plugged		Sources of sediment and debris shall be identified and corrected
		Undercut, eroded and bare soil areas are seen		Repair as needed by reintroducing vegetation
		More than 1 inch of sediment		Add fill material and compact soils
		Alignment is faulty		Correct immediately
		Cracks or openings exist indicated by evidence of erosion or leaks		Repair or replace pipe as needed
Hardened Pad	Every two years	All or part of pad is worn		Replace
Forebay	Every 2-5 years	Sediments are not properly filtering down		Remove debris and trash. Sediment buildup exceeding 50% of the facility capacity shall be removed every 2-5 years, or sooner if performance is affected.
Overflow/ Emergency spillway	Every 2-5 years	Excess stormwater does not drain through the spillway		Remove debris and blockages
		Undercut, eroded and bare soil areas are seen. Evidence of spalling, joint failure, leakage, corrosion, etc.		Repair as needed by reintroducing vegetation
		50% of the conveyance capacity is plugged		Overflow structure shall be cleared. Sources of debris and sediment shall be identified and corrected.
		Only one layer of rock above native soil.		Rocks or other armoring shall be replaced.
Berm/ Embankment	Monthly	Sparse vegetative cover, erosion channels deeper than 2 inches, slumping or cracks are evident.		Stabilize and repair immediately.
		Cracking, bulging or sloughing		
		Soft spots or sinkholes		
		Evidence of erosion		
		Evidence of animal burrows		
		Presence of woody vegetation		
Vegetation	On-going	Plant composition consistent with approved plans		
		Presence of invasive species/weeds		
		Dead vegetation/exposed soil		
		Reinforcement planting recommended		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Permanent Pool	Monthly	Trash in the pool		Remove immediately while supervised
		1 foot of sediment accumulates in the pool		Wet pond shall be dredged
		Releases of pollutants have occurred		Measures shall be exercised when handling substances that can contaminate stormwater. Correct as soon as identified.
Aquatic Bench	Monthly	Plant growth is sparse		Pond buffer reinforcement plantings and planting of aquatic benches. One time—after first year.
		Area is disheveled		Remove trash, debris and floatables
Low flow orifice	Yearly	Evidence of clogging		Remove by hand, or if needed, use an industrial vacuum/hose
		Trash/debris accumulation		
		Adjustable control valve accessible and operational		
Riser	Yearly	Maintenance access to riser		
		Structural condition of riser		
		Condition of joints		
		Trash/debris accumulation		
		Pieces of the riser are broken or missing		Replace immediately
Outfall	Monthly	Treated water is not leaving the practice		Remove debris and blockages
		Outlets provide stable conveyance out of facility		
		Excessive trash/debris/sediment accumulation at outlet		
		Evidence of erosion at/around outlet		
Pond Drain (underdrain) system	On-going	Broken		
		Clogged		
		Adjustable control valve accessible and operational		
Maintenance Access	Monthly	Access is blocked by woody vegetation, or anything else		Remove blockage immediately. Egress and ingress routes shall be maintained to design standards. Roadways shall be maintained to accommodate size and weight of vehicles. Gravel or ground cover shall be added if erosion occurs, eg due to vehicular or pedestrian traffic.
		Valves, manholes or locks cannot be opened and operated.		Replace any broken fixtures.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Safety Bench and other safety features	Monthly	Vegetation is overgrown		Mow twice a year
		Area is disheveled		Remove trash, debris and floatables
		Warning sign is illegible		Broken or defaced signs shall be replaced or repaired
		Fences are inadequate		Collapsed fences shall be restored to an upright position. Jagged edges and damaged fences shall be repaired or replaced.
		Insects/rodents are present within or near the practice		Pest control measures shall be taken insects/rodents are found to be present. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied only if absolutely necessary and only by a licensed individual or contractor. Holes in the ground shall be filled.
		Maintenance access to facility		
		Sediment accumulation, bathymetric study recommended		
		Abnormally high or low water levels		
		Evidence of pollution/hotspot runoff		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		
		Adequate safety signage		
Vegetation	Monthly	Vegetation is producing foul odors		Remove vegetation
		Grass is overgrown		Mow to 4-9 in. high & remove clippings
		Newly planted vegetation is struggling to establish itself. Vegetation, large shrubs or trees that limit access or interfere with wet pond operation.		Trees planted in the pond buffer need watering during the first growing season. Water every three days for first month, then weekly during first year (Apr—Oct), depending on rainfall. If vegetation hinders performance, remove.
		Plants are not healthy and dense enough to provide filtering while protecting underlying soils from erosion and minimizing solar exposure of open water areas		Monitor the growth of wetland plants, trees and shrubs planted. Record species and approximate coverage, and note presence of any invasive plant species.
		Plant composition consistent with approved plans		
		Presence of invasive species/weeds		
		Dead vegetation/ exposed soils		
		Reinforcement planting recommended		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection Form

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Filtering Practices

Owner Name:			
Property Address: Street: City: Zip code:			
Date BMP placed in service:			
Site plan/permit number:	As-built plans available:	Y	N
Date of Inspection:	Date of Last Inspection:		
Phone Number:	Email address:		

Warning: If the filtration facility has a water tight cover—be careful regarding the possibility of flammable gases within the facility. Care should be taken lighting a match or smoking while inspecting facilities that are not vented. If the facilitation facility is in a completely enclosed vault, the ***OSHA Confined Space Entry*** procedures must be followed.

Check all that apply:

Facility Location:
- □ Surface
- □ Underground

Hydraulic configuration:
- □ On-line facility

Filtration Media:
- □ No filtration media (e.g. dry well)
- □ Sand
- □ Bioretention soil
- □ Peat
- □ Other:

Type of Pretreatment:
- □ Sediment forebay (above ground)
- □ Sedimentation chamber
- □ Grass channel
- □ Grass filter strip
- □ Plunge pool
- □ Stone diaphragm
- □ Other:

Checklist—Virginia Stormwater Management Handbook, chapter 9

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	On-going	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Evidence of standing water: ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation.		
		Evidence of clogging		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Pretreatment	On-going	Dead vegetations/exposed soil		
		Evidence of erosion		
Inlets	On-going	Inlets provide stable conveyance into facility		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Overflows or Emergency Spillways	Every two years	50% of the conveyance capacity is plugged		Overflow spillway shall be cleared of sediment and debris.
		Erosion channels are forming		Source of erosion damage shall be identified and controlled.
		Sand is exposed and eroding from wind or rain.		Rocks or other armament shall be replaced.
Flow By-pass structure	Twice per year	Flows through the strip short circuit the overflow control section		Check that the structure is not clogged. Manually clean out debris immediately. Repair rills and gulls.
Observation Well	Every 2 years	Condition of element is poor.		Replace observation well if needed and make sure it is still capped.
Sediment/ debris Management	Annually	The capacity volume of the infiltration basin is compromised by sedimentation. Gauges located at the opposite ends of the basin indicate too much debris.		Sediment and debris exceeding 4" in depth shall be removed every 2-5 years or sooner if performance is affected. Restricted sources of sediment and debris, such as discarded lawn clippings, shall be identified and prevented.
Underdrain	Every 5-7 years	The drawdown rate should be measured at the observation well for three days following a storm event in excess of 0.5 inches. If standing water is still observed in the well after 3 days, this is a clear sign that clogging is a problem.		Immediately contact a professional to clear debris.
		Standing water is present 48 hours after a rain event.		The underdrain may be clogged. It is imperative to clear out the debris using a high pressure hose (if needed) or manually.
Vegetation	Monthly	Invasive vegetation contributes more than 25% or more of all vegetation.		Nuisance or prohibited vegetation shall be removed when discovered.
		Vegetative density is less than 90% cover in the boundary zone or grass filter.		Reseed and fertilize (if necessary) exposed soil.
		Fallen leaves and debris from deciduous plant foliage is present.		Rake and remove immediately.
		Plant composition consistent with approved plans.		
		Presence of invasive species/weeds.		
		Dead vegetation/exposed soil		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Level spreader	Twice per year	Level spreader is not performing properly. Flows are concentrating on the outflow side of the element.		Search the spreader for chips, cracks, or any other fundamental compromise of the structure. Immediately repair.
Basin Inlet	Twice per year	Stormwater flow to the vegetated basin is restricted. Weedy growth on rock surfaces might indicate sediment deposition or clogging.		Sources of erosion shall be identified and controlled when native soil is exposed or erosion channels are present. Inlet shall be cleared when conveyance capacity is plugged. Rock splash pads shall be replenished to prevent erosion.
		40% of the conveyance capacity is plugged. Sediment is more than 4 inches thick or so thick as to damage or kill vegetation.		Inlet shall be cleared of sediment and debris. Sediment accumulation shall be hand-removed with minimum damage to vegetation using proper erosion control measures.
Filter Media	Annually	Stormwater does not percolate uniformly through the planter. If water remains 36-48 hours after storm, sources of possible clogging shall be identified and corrected.		Filter media may need to be raked, excavated and cleaned, or gravel/soil shall be replaced to correct the problem. Holes that are not consistent with the design and allow water to flow directly through the planter to the ground shall be plugged. Sediment accumulation shall be hand removed with minimum damage to vegetation using proper erosion control measures. Sediment shall be removed if it is more than 4 inches thick or so thick as to damage or kill vegetation. Litter and debris shall be removed routinely. (e.g. no less than quarterly) and upon discovery.
Forebay	Every 2-5 years	Stormwater runoff is not properly filtering down		Remove debris and trash. Sediment buildup above 50% of the facility capacity shall be removed. Structural deficiencies in the sand filter box (rot, cracks, and failure shall be repaired upon discovery.
Outlet	On-going	Outlets provide stable conveyance out of facility		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Overall	On-going	Maintenance access to facility		
		Condition of structural components		
		Condition of hydraulic control components		
		Excessive trash/debris/sediment		
		Evidences of erosion		
		Evidence of oil/chemical accumulation		
		Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection Grass Channels

Owner Name:		
Property Address: Street: City: Zip code:		
Date BMP placed in service:	As-built plans available:	Y N
Site plan/permit number:	Date of Last Inspection:	
Date of Inspection:	Email address:	
Phone Number:		
Type of pretreatment facility: ☐ Sediment forebay ☐ Check dam ☐ Grass filter strip ☐ Stone diaphragm ☐ other		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	On-going	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Dead vegetation/exposed soil		
		Evidence of erosion		
Inlets	On-going	Inlets provide stable conveyance into system		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Diaphragm	Twice per year	Element is clogged		Manually remove debris.
Underdrain	On-going	Broken/clogged		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Vegetation	Monthly	Unhealthy or dead grass cover, evidence of erosion, braiding, or excessive ponding, in the channel bottom, bare soil or sediment sources in the contributing drainage area.		Add reinforcement planting to maintain 90% turf cover. Reseed any salt killed vegetation and stabilize immediately. Keep the grass in a healthy, vigorous condition at all times, since it is the primary erosion protection for the channel.
		Unwanted plant species, fallen leaves, and debris from deciduous plant foliage are present		Vegetation, large shrubs or trees that interfere with landscape swale operation shall be pruned. Nuisance/prohibited vegetation shall be removed. Invasive vegetation contributing up to 25% shall be removed.
		Native soil is exposed or erosion channels are forming.		Sediment accumulation to be removed with minimum damage to vegetation. Use proper E&S controls. Sediment must be removed if it is more than 4 " thick or so thick as to damage or kill vegetation.
		Grass height does not reach standards		Grass channels shall be moved to keep grass 4" to 9". Remove grass clippings after mowing.
		Vegetation requires fertilizer		Fertilize per specification. If possible, use compost instead of synthetic fertilizer.
		Plant composition consistent with approved plans		
		Presence of invasive species		
		Dead vegetation/exposed soil		
Side Slopes	Twice per year	Side slopes do not prevent erosion, and introduce sediment into the swale		Repair erosion after heavy storms. Slopes shall be stabilized and planted using appropriate erosion control measures when native soil is exposed or erosion channels are forming. Inspect side slopes and grass filter strips for evidence of any rill or gully erosion and repair immediately.
Check Dams/ Flow Spreader	Twice per year	Practice is not evenly controlling and distributing flow		Remove any accumulated sand or sediment deposits behind check dams. Inspect upstream and downstream for evidence of undercutting or erosion, and remove trash or blockages at weep holes. Causes for altered water flow/ channelization shall be identified, and obstructions cleared/repaired upon discovery. Causes for obstructions shall be identified and repaired.
		Condition		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Swale Bottom	Twice per year	Soil/sand has become compacted. Practice does not draw down within 48 hours after a rain event.		Dethatch and aerate swale bottom. Scrape swale bottom and remove sediment to restore original cross section and infiltration rate. Remove sediment buildup within the bottom of the swale once it has reached 25% of the original design volume. Remove all significant sediment accumulations to maintain the designed carrying capacity.
Swale Outlet	Twice per year	Outlet does not maintain sheet flow of water exiting swale (unless a collection drain is used).		Source of erosion damage must be identified and controlled when native soil is exposed or erosion channels are forming. Check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes.
		Outlets provide stable conveyance out of facility.		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Inflow forebay	Twice per year	Inlet is not maintaining a calm flow of water entering the swale, conveyance capacity is clogged.		Remove trash and sediment accumulated in the inflow. Sources of sediment and debris shall be identified and corrected. Rock splash pads shall be replenished to prevent erosion.
Pest Control	Twice per year	Minimize standing water and mosquito habitat		Pest control measures shall be taken when insects/rodents are found to be present. If sprays are considered, than a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied only if absolutely necessary. Holes in the ground located in and around the swale shall be filled.
Overall	On-going	Maintenance access to facility		
		Sediment Accumulation		
		Evidence of erosion		
		Evidence of oil/chemical accumulation		
		Evidence of standing water: ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		
Miscellaneous	On-going	Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection Form

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Infiltration Practices

Owner Name:	
Property Address: Street: City: Zip code:	
Date BMP placed in service:	
Site plan/permit number:	As-built plans available: Y N
Date of Inspection:	Date of Last Inspection:
Phone Number:	Email address:

Check all that apply: **Type of Infiltration:** □ **Basin** □ **Trench** □ **Permeable Pavement**

Facility Location:
- □ Surface
- □ Underground

Hydraulic configuration:
- □ On-line facility
- □ Off-line facility

Filtration Media:
- □ No filtration media (e.g. dry well)
- □ Sand
- □ Bioretention soil
- □ Peat
- □ Other:

Type of Pretreatment:
- □ Sediment forebay (above ground)
- □ Sedimentation chamber
- □ Grass channel
- □ Grass filter strip
- □ Plunge pool
- □ Stone diaphragm

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	On-going	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Evidence of clogging		
		Evidence of erosion		
		Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Pretreatment	On-going	Dead vegetation, exposed soil		
Inlets	On-going	Inlets provide stable conveyance into system		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Downspout	Twice per year	Flow of stormwater is impeded to the practice		Debris and damaged pipe shall be re paired upon discovery.
Basin inlet	Twice per year	Stormwater flow to the vegetated basin is restricted. Weedy growth on rock surfaces might indicate sediment deposition or clogging.		Sources of erosion shall be identified and controlled when native soil is exposed or erosion channels are present. Inlet shall be cleared when conveyance capacity is plugged. Rock splash pads shall be replenished to prevent erosion.
Filter Media	Annually	Stormwater does not percolate uniformly through the planter. Water remains 48 hours after storm.		Filter media may need to be raked, excavated and cleaned, or gravel/soil shall be replaced to correct problem. Holes that are not consistent with the design and allow water to flow directly through the planter to the ground shall be plugged. Sources of possible clogging shall be identified and corrected.
		Sediment/debris accumulation is more than 4 inches thick or so thick as to damage or kill vegetation.		Remove by hand with minimum damage to vegetation using proper erosion control measures. Litter and debris shall be removed routinely and upon discovery.
Planter Reservoir	Annually	Element is unable to receive/detain stormwater prior to infiltration. Water does not drain from reservoir within 3-4 hours of storm event.		Sources of clogging shall be identified and corrected. Topsoil may need to be amended with sand or replaced altogether.
Planter	Twice per year	Structural deficiencies in the planter including rot, cracks, and failure are present. Planter is unable to contain the filter media/vegetation.		Repair as necessary.
Embankment, Dikes, Berms and Side slopes	Annually	Water is not retained in the infiltration basin.		Slopes shall immediately be stabilized using appropriate erosion control measures when soil is exposed/flow channels are forming. Sources of erosion damage shall be identified and controlled.
Overflow or Emergency Spillways	Twice per year	Pipe does not successfully carry excess water to an approved receiving system.		Overflow pipe shall be cleared of sediment and debris when 50% of the conveyance capacity is plugged. Damaged pipes shall be repaired or replaced upon discovery.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Overflow or Emergency Spillways	Twice per year	The reservoir does not perform as per specifications.		Overflow shall be cleared when 25% of the conveyance capacity is plugged. Sources of erosion damage shall be identified and controlled when soil is exposed. Rocks or other armament shall be replaced when only one layer of rock exists.
Vegetation	Monthly	Vegetation is not providing adequate filtering or is unable to protect underlying soils from erosion.		Mulch shall be replenished at least annually. Vegetation shall be replaced within a specific timeframe, e.g. three months, or immediately if required to maintain cover density and control erosion where soils are exposed.
		Nearby plants unrelated to the practice are interfering with the BMPs effectiveness.		Vegetation, large shrubs or trees that limit access or interfere with planter operation shall be pruned or removed. Fallen leaves and debris from deciduous plant foliage shall be raked and removed. Invasive vegetation contributing up to 25% of vegetation of all species shall be removed and replaced. Dead vegetation shall be removed to maintain less than 10% of area coverage or when planter function is impaired.
		Grass within practice is overgrown.		Grass shall be mowed to 4 –9 inches high and grass clippings shall be removed.
		Vegetative quality of the adjacent grass buffer is poor.		Spot reseed if cover is less than 90%.
		Plant composition consistent with approved plans.		
		Presence of invasive species/weeds.		
		Dead vegetation/exposed soil.		
Observation Well	Every 2 years	Condition of element is poor.		Replace observation well if needed and make sure it is still capped.
Sediment/ debris Management	Annually	The capacity volume of the infiltration basin is compromised by sedimentation. Gauges located at the opposite ends of the basin indicate too much debris.		Sediment and debris exceeding 4" in depth shall be removed every 2—5 years or sooner if performance is affected. Restricted sources of sediment and debris shall be identified and prevented.
Underdrain	Every 5—7 years	The draw down rate should be measured at the observation well for three days following a storm event in excess of 0.5 inches in depth. If standing water is still observed after 48 hours, this is a clear sign that clogging is a problem.		Immediately clear debris from underdrain. It may need to be replaced.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Overall	Annually	Access to the stormwater planter is unsafe and inefficient. Egress and ingress routes are not maintained to design standards. Roadways are unable to accommodate size and weight of vehicles.		Obstacles preventing maintenance personnel and/or equipment access to the stormwater planter shall be removed. Gravel or ground cover shall be added if erosion occurs, e.g. due to vehicular or pedestrian traffic.
		Insects and rodents are harbored in the stormwater planter		Pest control measures shall be taken when insects/rodents are found to be present. If sprays are considered, then a mosquito larvicide, such as Bacillus thurengensis or Altoside formulations can be applied only if absolutely necessary and only by a licensed individual or contractor. Holes in the ground located around the stormwater planters shall be filled and compacted.
Outlet	On-going	Outlets provide stable conveyance out of facility		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Overall	On-going	Maintenance access to facility		
		Condition of structural components		
		Condition of hydraulic components		
		Excessive trash/debris/sediment		
		Evidences of erosion		
		Evidence of oil/chemical accumulation		
		Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection Permeable Pavement

Owner Name:		
Property Address: Street: City: Zip code:		
Date BMP placed in service:		
Site plan/permit number:	As-built plans available:	Y N
Date of Inspection:	Date of Last Inspection:	
Phone Number:	Email address:	

Check all that apply:

Facility Location:
- □ Surface
- □ Underground

Hydraulic configuration:
- □ On-line facility
- □ Off-line facility

Filtration Media:
- □ No filtration media (e.g. dry well)
- □ Sand
- □ Bioretention soil
- □ Peat
- □ Other:

Type of Pretreatment:
- □ Sediment forebay (above ground)
- □ Sedimentation chamber
- □ Grass channel
- □ Grass filter strip
- □ Plunge pool
- □ Stone diaphragm

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	On-going	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Dead vegetation/exposed soil		
		Evidence of erosion		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Inlets	On-going	Inlets provide stable conveyance into system		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Surface	Monthly	Pavement is not draining precipitation/is clogged. Ponding water is visible on the surface 48 hours after a rain event. Significant amounts of sediment have accumulated between the pavers.		The surface shall be kept clean and free of leaves, debris and sediment. (Regular sweeping shall be implemented for porous asphalt or concrete systems)
Overflows or Emergency Spillways	Monthly	Devices are obstructed. Erosion damage is evident in the emergency spillways; native soil is exposed near the overflow structure.		Remove obstructions; identify sources of erosion and restabilize spillway.
Vegetation (where applicable)	Monthly	Vegetation is dying or dead		Maintain vegetation so that it is healthy and dense enough to provide filtering while protecting underlying soils from erosion. Remove all dead and decaying plants and replace immediately.
		Grass has grown to more than 4 inches		Grass shall be mowed to less than four inches and grass clippings shall be bagged and removed.
		Plant composition consistent with approved plans.		
		Presence of invasive species/weeds.		
		Dead vegetation/exposed soil		
		Trees and shrubs are within 5 feet of pavement surface		Check that roots from trees have not penetrated the pavement, and leaves from deciduous trees and shrubs have not clogged the practice. Vegetation and large shrubs/trees that limit access or interfere with porous pavement operation shall be pruned.
Source Control	Twice per year	Stormwater has more contaminants than the practice was designed to treat.		Measures such as raking and removing leaves, street sweeping, vacuum sweeping, limited and controlled application of pesticides and fertilizers, and other good housekeeping practices that prevent pollutants from mixing with stormwater should be taken.
Outlet	Twice per year	Outlets provide stable conveyance out of facility.		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Spill Prevention	On-going	Hazardous/toxic substances are located/used near or on pavement.		A spill prevention plan shall be implemented at all non-residential sites and in areas where there is likelihood of spills from hazardous materials. Virtually all sites present potential danger from spills. All properties contain a wide variety of toxic materials including gasoline for lawn mowers, antifreeze for cars, solvents, pesticides, and cleaning aids than can adversely affect storm water if spilled. Releases of pollutants shall be corrected as soon as identified.
Access	Monthly	Access is unsafe or impossible to inspect pavement		Egress and ingress routes shall be renovated to design standards. Roadways may need adjustments to accommodate size and weight of vehicles. Obstacles preventing maintenance personnel and/or equipment access to the porous pavement shall be removed. Gravel or ground cover shall be added if erosion occurs due to vehicular or pedestrian traffic.
Insects & Rodents	Monthly	Insects and rodents are found within the practice.		Pest control measures shall be taken when insects/rodents are found to be present. Standing water that creates an environment for development of insect larvae shall be eliminated. If sprays are considered, than a mosquito larvicide, such as Bacillus thurengensis or Altoside formulations can be applied only if absolutely necessary. Holes in the ground located in and around the pervious pavement shall be filled and compacted.
Overall	On-going	Maintenance access to facility		
		Condition of structural components		
		Condition of hydraulic control components		
		Excessive trash/debris/sediment		
		Evidences of erosion		
		Evidence of oil/chemical accumulation		
		Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Wet Ponds

Owner Name:	
Property Address: Street: City: Zip code:	
Date BMP placed in service:	
Site plan/permit number:	As-built plans available: Y N
Date of Inspection:	Date of Last Inspection:
Phone Number:	Email address:

Check all that apply:

Type of stormwater wetland:
- □ Extended detention
- □ Ties into groundwater
- □ Pond with some wetland plantings
- □ Multiple pond system

Choose one of the following:
- □ Permanent pool sized for full Tv
- □ Shallow wetland sized for full Tv
- □ Micropool

Type of Pretreatment:
- □ Sediment forebay
- □ Grass filter strip
- □ Other:

Type of wetland:
- □ Emergent
- □ Forested

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreat-ment	Every 5 years	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Evidence of clogging		
		Dead vegetation, exposed soil		
		Evidence of erosion		
Inflow	Monthly	Inlets provide stable conveyance into facility		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Inflow	Monthly	Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
		Conveyance capacity is plugged		Sources of sediment and debris shall be identified and corrected.
		Undercut, eroded and bared soil areas are seen.		Repair as needed by reintroducing vegetation.
		More than 1 inch of settlement		Add fill material and compact soils
		Alignment is faulty		Correct immediately.
		Cracks or openings exist indicated by evidence of erosion at leaks.		Repair or replace pipe as needed.
Hardened Pad	Every 2 years	All or part of pad is worn		replace
Outfall	Monthly	Treated water is not leaving the practice		Remove debris and blockages
Forebay	Every 5-7 years	Sediments are not properly filtering down		Remove debris and trash. Sediment buildup exceeding 50% of the filtering capacity shall be removed every 2-5 years, or sooner if performance is being affected.
Overflow/ Emergency Spillway	Every 2 years	Excess stormwater does not drain through the spillway		Remove debris and blockages
		Undercut, eroded and bare soil areas are seen. Evidence of spalling, joint failure, leakage, corrosion, etc.		Repair as needed by reintroducing vegetation.
		50% of the conveyance capacity is plugged		Overflow structure shall be cleared. Sources of debris and sediment shall be identified and corrected.
		Only one layer of rock exists above native soil.		Rocks or other armoring shall be replaced.
Berm/ Embankment	Monthly	There is sparse vegetative cover, erosion channels deeper than 2 inches, slumping or cracks exist.		Stabilize and repair immediately
		Cracking, bulging or sloughing		
		Evidence of erosion		
		Soft spots or sinkholes		
		Evidence of animal burrows		
		Presence of woody vegetation		
Permanent Pool	Monthly	Trash in the pool		Remove immediately while supervised.
		1 foot of sediment accumulates in the pond		Wet pond shall be dredged.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Permanent Pool	Monthly	Releases of pollutants have occurred		Measures shall be exercised when handling substances that can contaminate stormwater. Correct as soon as identified.
Vegetation	On-going	Plant composition consistent with approved plans.		
		Presence of invasive species/weeds		
		Dead vegetation/exposed soil		
		Reinforcement planting recommended		
Aquatic Bench	Monthly	Plant growth is sparse		Pond buffer reinforcement plantings and planting of aquatic benches. One time—after first year.
		Area is disheveled		Remove trash, debris and floatables
Low Flow orifice	Yearly	There is evidence of clogging		Manually remove, or if needed, use and industrial hose/vacuum
		Trash/debris accumulation		
		Adjustable control valve accessible and operational		
Riser	Yearly	Pieces of the riser are broken or missing		Replace immediately
		Maintenance access to the riser		
		Structural condition of the riser		
		Condition of joints		
		Trash/debris accumulation		
Outfall	Monthly	Treated water is not leaving the practice		Remove debris and blockages
		Outlets provide stable conveyance out of facility		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Pond Drain (underdrain system)	On-going	Broken, clogged		
		Adjustable control valve accessible and operational		
Maintenance Access	Monthly	Access is blocked by woody vegetation, or anything else		Manually remove blockage immediately. Egress and ingress routes shall be maintained to design standards. Roadways shall be maintained to accommodate size and weight of vehicles, if applicable. Gravel or ground cover shall be added if erosion occurs, e.g. due to vehicular traffic or pedestrian traffic.
		Valves, manholes or locks cannot be opened or operated		Replace any broken fixtures

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Safety bench and other safety features	Monthly	Vegetation is overgrown		Mowing—twice per year
		Area is disheveled		Remove trash, debris and floatables
		Warning sign is illegible		Broken or defaced signs shall be replaced or repaired.
		Fences are inadequate		Collapsed fences shall be restored to an upright position. Jagged edges and damaged fences shall be repaired or replaced.
		Insects/rodents are present within or near the practice		Pest control measures shall be taken when insects/rodents are found to be present. If sprays are considered, then a mosquito larvacide, such as Bacillus thurendensis or Altoside formulations can be applied only if absolutely necessary and only be a licensed individual or contractor. Holes in the ground shall be filled.
		Maintenance access to the facility		
		Sediment accumulation, bathymetric study recommended		
		Abnormally high or low water levels		
		Evidence of pollution/hotspot runoff		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		
		Adequate safety signage		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Wet Swales

Owner Name:	
Property Address: Street: City: Zip code:	
Date BMP placed in service:	
Site plan/permit number:	As-built plans available: Y N
Date of Inspection:	Date of Last Inspection:
Phone Number:	Email address:

□ Level 1 □ Level 2

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Pretreatment	On-going	Maintenance access to pretreatment facility		
		Excessive trash/debris/sediment		
		Evidence of clogging		
		Dead vegetation, exposed soil		
		Evidence of erosion		
Inlets	On-going	Inlets provide stable conveyance into system		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Inflow	Twice per year	Accumulation of debris and trash		Check inflow points for clogging and remove any sediment
		Erosion		Look for any bare soil or sediment sources in the contributing drainage area and stabilize immediately.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Check Dam	Twice per year	Dam is not functioning properly		Inspect upstream and downstream of check dams for evidence of undercutting, side cutting or erosion. Undermined/eroded. Wood condition. Pea gravel diaphragm at correct level.
		There is a large buildup of sediment/ debris.		If sediment buildup is greater than 25% of original Tv remove immediately. Remove trash or blockages at weep holes.
		Condition of check dams		
Embankment	Monthly	Integrity of all or part of embankment is compromised.		Inspect side slopes and grass filter strips for evidence of any rill or gully erosion, and repair as needed immediately.
Underdrain/ Perforated Pipe	Every 5-7 years	Broken, day lighted, clogged		Immediately remove blockage manually.
		Practice does not dewater within 48 hours after significant rainfall or snowfall		This is evidence that the underdrain may be clogged. Manually clean out the underdrain or use a pressure hose to clear debris.
		Underdrain system (if equipped), broken or clogged		
Vegetation	Monthly	Plant composition consistent with approved plans.		
		Presence of invasive species/weeds		
		Dead vegetation/exposed soil		
		Density and/or health of vegetation do not meet standards. Evidence of die off.		Add reinforcement planting to maintain 95% turf cover and vegetation density. Reseed and salt killed vegetation.
		Woody vegetation is present.		Remove within 2 weeks.
Filter bed/soil	Twice per year	Evidence of braiding, excessive ponding, or dead grass		Remove any accumulated sand or sediment deposits on the filter bed surface or in pretreatment cells. Stabilize soil.
		Accumulation of oil/chemicals		Manually remove immediately
		Pea gravel diaphragm at incorrect level		Supplement as needed immediately
		Mosquitoes are breeding in standing water		Remove from habitat immediately
		Excessive trash/debris/sediment		
		Evidence of erosion		
		Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Outlet	On-going	Outlets provide stable conveyance out of facility		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Miscellane-ous	On-going	Maintenance access to facility		
		Condition of structural components		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Rain Tanks & Cisterns

Owner Name:			
Property Address: Street: City: Zip code:			
Date BMP placed in service:			
Site plan/permit number:	As-built plans available:	Y	N
Date of Inspection:	Date of Last Inspection:		
Phone Number:	Email address:		

Facility Type: Type 1 Type 2 Type 3

This practice should be inspected each Spring and Fall by the owner with an extensive inspection every three years by a qualified third party inspector.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Overall	Every third year	A component of the system is leaking or damaged.		Make necessary repairs or replace damaged components.
		Water is flowing out of the overflow pipe during the design rainfall or smaller (1—1.5 in.).		Check for clogging/damage/pump operation. Ensure water is being used at the volume designed.
		Electric system is flawed.		Make any necessary repairs/ adjustments.
		Excessive landscape waste/yard clippings		
Captured roof area	Twice per year	Excessive overhanging vegetation/trees present		Trim branches/leaves back to meet standards.
		Excess debris/sediment on rooftop		Remove debris ASAP.
Gutter system	Twice per year	Gutters are clogged/water is backed up.		Unclog/remove leaves and debris. May need to install gutter screens.
		Roof top runoff not reaching gutter system		Correct positioning or installation of gutters. May need to replace system.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Cistern	Twice per year	Debris and sediment build-up is present at the top of the filter strip.		Check the tributary flows for trouble spots and correct any problems immediately. Manually remove buildup.
Gravel diaphragm	Every two years	Foot or vehicular traffic is compromising the gravel diaphragm.		Create to block traffic. Re-stabilize immediately.
Level Spreader	Twice per year	Level spreader is not performing properly. Flows are concentrating on the outflow side of the element.		Search the spreader for chips, cracks, or any other fundamental compromise of the structure. Immediately repair.
Vegetation	Monthly	Vegetative density is less than 90% cover in the boundary zone or grass filter.		Reseed and fertilize (if necessary) exposed soil.
		Plant composition consistent with approved plans.		
		Presence of invasive species/weeds		
		Dead vegetation/exposed soil		
Outlet	On-going	Outlets provide stable conveyance out of facility.		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Overall	On-going	Maintenance access to facility		
		Condition of structural components		
		Condition of hydraulic control components		
		Excessive trash/debris/sediment		
		Evidences of erosion		
		Evidence of oil/chemical accumulation		
		Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Once established, filter strips have minimal maintenance needs outside of the Spring clean up: regular mowing, repair of check dams and other measures to maintain the hydraulic efficiency of the strip and a dense, healthy grass cover. Grass filter strips and boundary zones of conservation filter strips must be mowed at least twice a year to prevent woody growth.

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection Rooftop Disconnection

Owner Name:	
Property Address: Street: City: Zip code:	
Date BMP placed in service:	
Site plan/permit number:	As-built plans available: Y N
Date of Inspection:	Date of Last Inspection:
Phone Number:	Email address:

Compensatory device type (include if pervious area flow path is less than required minimum length:

□ Dry well □ Rain Garden
□ French Drain □ Other :

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Pipings, gutters, and drains	Annually	Fluid from a different practice is being piped near pervious areas		Prevent adjacent uses from piping through/around pervious area.
		Sediment accumulation, evidence of oil/ chemical accumulation		
		Mosquito proliferation		
		Runoff is not entering pervious area		Check to see if connection spout is clogged. Clean sediment out of pipe.
Downstream treatment	Annually	Stormwater discharge is ponding at point of disconnection		Installation of drywells or French drains may be necessary if not already present. Clean out manually.
		Erosion at simple disconnection, bioreten-tion/rain gardens, filter paths, or founda-tion planter is evident.		Remove sediment and debris buildup at points where runoff enters pervious area. Re-stabilize.
		Practices to which the disconnection re-leases are not functioning.		Reference that practice's checklist for instructions to fix problems.
Contributing Drainage Area—Rooftop	On-going	Pervious areas retain dimensions as shown on plans and are in good condition		
		Encroachment on pervious area or ease-ment by buildings or other structures.		

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Vegetated Filter Strips

Owner Name:			
Property Address: Street: City: Zip code:			
Date BMP placed in service:			
Site plan/permit number:	As-built plans available:	Y	N
Date of Inspection:	Date of Last Inspection:		
Phone Number:	Email address:		

Check all that apply:

Facility Location:
- □ Surface
- □ Underground

Hydraulic configuration:
- □ On-line facility
- □ Off-line facility

Filtration Media:
- □ No filtration media (e.g. dry well)
- □ Sand
- □ Bioretention soil
- □ Peat
- □ Other:

Type of Pretreatment:
- □ Sediment forebay (above ground)
- □ Sedimentation chamber
- □ Grass channel
- □ Grass filter strip
- □ Plunge pool
- □ Stone diaphragm
- □ Other:

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Contributing Drainage Area	On-going	Excessive trash/debris		
		Bare exposed soil		
		Evidence of erosion		
		Excessive landscape waste/yard clippings		
Inlets	On-going	Inlets provide stable conveyance into facility		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Channel	Annually	Scour and erosion are present within the filter strip		Sediments are to be cleaned out of ELS forebays and flow splitters

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Channel	Annually	Debris and sediment build-up is present at the top of the filter strip.		Check the tributary flows for trouble spots and correct any problems immediately. Manually remove buildup.
Gravel diaphragm	Every two years	Foot or vehicular traffic is compromising the gravel diaphragm.		Create to block traffic. Re-stabilize immediately.
Level Spreader	Twice per year	Level spreader is not performing properly. Flows are concentrating on the outflow side of the element.		Search the spreader for chips, cracks, or any other fundamental compromise of the structure. Immediately repair.
Vegetation	Monthly	Vegetative density is less than 90% cover in the boundary zone or grass filter.		Reseed and fertilize (if necessary) exposed soil.
		Plant composition consistent with approved plans.		
		Presence of invasive species/weeds		
		Dead vegetation/exposed soil		
Outlet	On-going	Outlets provide stable conveyance out of facility.		
		Excessive trash/debris/sediment accumulation at inlet		
		Evidence of erosion at/around inlet		
Overall	On-going	Maintenance access to facility		
		Condition of structural components		
		Condition of hydraulic control components		
		Excessive trash/debris/sediment		
		Evidences of erosion		
		Evidence of oil/chemical accumulation		
		Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation		
		Complaints from local residents		
		Mosquito proliferation		
		Encroachment on facility or easement by buildings or other structures		

Once established, filter strips have minimal maintenance needs outside of the Spring clean up: regular mowing, repair of check dams and other measures to maintain the hydraulic efficiency of the strip and a dense, healthy grass cover. Grass filter strips and boundary zones of conservation filter strips must be mowed at least twice a year to prevent woody growth.

Town of Dumfries
Annual BMP Operation & Maintenance Inspection

Town of Dumfries
Annual BMP Operation & Maintenance Inspection for Vegetated Roofs

Owner Name:			
Property Address: Street: City: Zip code:			
Date BMP placed in service:			
Site plan/permit number:	As-built plans available:	Y	N
Date of Inspection:	Date of Last Inspection:		
Phone Number:	Email address:		

Facility Type (if applicable): Level I Level 2

After construction, this practice should be inspected frequently (once a month) or as needed for plant establishment, leaks, and other functional or structural concerns. Maintenance may include watering and weeding, for which the greatest need occurs in the first two years, as plants become established.
The use of herbicides, insecticides, fungicides, and fertilizers should be avoided, since their presence could hasten degradation of the waterproof membrane. Irrigation and fertilization is only required during the first year as plants are established. After the first year, maintenance consists of two visits a year for weeding of invasive species, and membrane inspections.
Care must also be taken with certain activities near the green roof. Activities such as power-washing or use of cleaning agents, detergents, or other chemicals that may drift onto the green roof may harm the roof's plant communities.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Vegetation	Monthly, or as needed	Plant cover is less than 90%		During establishment period, plants shall be replaced once per month as needed. During long-term period, dead plants shall generally be replaced once per year in the fall months.
		Plants are wilting		Water more frequently to promote growth and survival. *Fertilization is not necessary and shall not be applied.*
		Plants are choking on excess vegetation		Fallen leaves and debris from deciduous plant foliage shall be removed.
		Invasive and nuisance plant species are present		Completely remove invasive plant species. Weeding shall be manual without the use of herbicides or pesticides. Weeds shall be removed regularly and not allowed to accumulate.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Vegetation, con't.	Monthly, or as needed	Drought conditions are present		Mulch or shade cloth may be applied to prevent excess solar damage and water loss.
		Grasses have become unruly		Mowing of grasses shall occur as needed. Clippings shall be removed.
Vegetation Irrigation	On-going	During the establishment period (1-3 years)		Water sufficient to assure plant establishment and do not exceed 1/4 inch of water once every three days.
		During the long-term period (3+ years)		Water sufficient to maintain plant cover and do not exceed 1/4 inch of water once every 14 days.
		Plant bed is too dry		Hand water or use sprinkler system. Follow manufacturers' instructions for O&M.
Structural Components	Twice per year	Waterproof membrane is leaking or cracked.		Make necessary repairs immediately.
		Root barrier is perforated.		Replace swatch.
Drainage Layer/inlet pipes	Twice per year	Soil substrate, vegetation, debris, litter or other materials clog the drain inlet.		Inlet pipe shall be cleared. Debris, litter, and other sources of sediment shall be identified and removed to prevent clogging of inlet drains and interference with plant growth.
		Drain inlet pipe is in poor condition		Repair as needed.
		Media has become clogged with sediment		Manually removed sediment. *Chemicals should never be used.*
Soil substrate/ growing medium	As needed for 1st 3 years, then twice per year	Evidence of erosion from wind or water.		If erosion channels are evident, they shall be stabilized with additional soil substrate/growth medium and covered with additional plants.
Miscellaneous	On-going	Access to the ecoroof is unsafe or inefficient		Egress and ingress routes shall be restored to design standards. Walkways shall be clear of obstructions and maintained to design standards.
		Evidence of damage or vandalism is present		Aesthetics of the ecoroof shall be maintained as an asset to the property owner and community.
		Insects are breeding/abundant at the practices		Standing water creating an environment for development of insect larvae shall be eliminated by manual means. *Chemical sprays shall not be used.*
		Threat of a spill is imminent		Spill prevention measures from mechanical systems located on roofs shall be exercises when handling substances that can contaminate stormwater. Releases of pollutants shall be corrected as soon as identified.

BMP Element	Frequency	Problem	Yes or No?	Corrective Action
Pervious Area Receiving Runoff	On-going	Downspouts or surface impervious area drains to the receiving pervious area		
		Receiving pervious areas retain dimensions as shown on plans and are in good condition.		
		Sediment accumulation		
		Evidence of standing water, ponding, noticeable odors, water stains, presences of algae or floating aquatic vegetation		
		Compensatory practice (if required)		
		Evidence of erosion.		
		Evidence of oil/chemical accumulation.		
		Vegetation: Dead vegetation/exposed soil, plant composition consistent with approved plans, presence of invasive species/weeds.		

APPENDIX I

Town of Dumfries

EASEMENT AND MAINTENANCE AGREEMENT

THIS EASEMENT AND MAINTENANCE AGREEMENT is made as of the _____ day of _____, 20 _____ by _____ (the "Owner") and the TOWN OF DUMFRIES, VIRGINIA (the "Town").

RECITALS

WHEREAS, _____is the Owner of that _____acre parcel of land located at _____in Richmond, Virginia, and described as _____ in y the deed recorded at the Prince William County Circuit Court Clerks Office in Deed Book _____at Page,_____and/or as instrument # _____ (the "Property") and

WHEREAS, a Site Plan/Subdivision Plat prepared by _____,dated _____ and entitled _____ has been approved or submitted for approval by the Town (the "Plan") and

WHEREAS, said Site Plan/Subdivision Plat provides for a detention/retention facility and other drainage or permanent erosion and sediment control measures and improvements within the confines of the property (the “Facilities") the description of work as follows _____ _____ _____ _____ _____ and

WHEREAS, the Town requires that the Facilities as shown on the Plan prepared by _____ _____, dated _____ and designated _____ _____ be constructed and adequately maintained by the Owner;

NOW THEREFORE, in consideration of the obligations mutually undertaken herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

AGREEMENT

1. This Agreement shall be binding on the parties, their administrators, executors, successors, heirs, assigns and agents.

2. Indefinitely and at all times, the Facilities as shown on the Plan shall be maintained in good working order acceptable to the Town.

3. The maintenance of detention/retention ponds shall include but not be limited to: (1) planting and maintaining a vegetative cover on the slopes surrounding the pond, (2) maintaining all outflow devices in good working order and repairing and replacing them when necessary, (3) removing silt and other debris so as to maintain the elevation of the bottom of the facility as shown on the approved plans, and (4) to maintain the slopes of the Facilities sides as shown on the approved plans.

4. The Owner hereby grants, bargains and conveys to the Town an easement over the Property to take whatever steps it deems necessary to maintain the Facilities. This easement may only be exercised by the Town in the event that the Owner fails to correct defects or does not commence action necessary to correct any defects to the good working order of the Facilities within fourteen (14) days after written notice of such defects to Owner.

5. In the event Owner fails to correct any defects or commence the correction of such defects to the good working order of the Facilities within fourteen (14) days after written notice of such defects to Owner, the Town may enter upon the Property and take whatever steps it deems necessary to maintain said Facilities. It is expressly understood and agreed that the Town is under no obligation to maintain or repair the Facilities and in no event shall this Agreement be construed to impose any such obligation on the Town.

6. In the event of an emergency involving the Facilities, as determined by the Director of Public Works, the Town, at its option, may enter immediately upon the property and take whatever steps it deems necessary to meet the emergency. Alternatively, the Town may notify the owner by phone at _____, to take whatever action is necessary within a specified period of time. Should the Owner fail to respond, or should the owner inform the Town that it intends not to respond within the specified period of time, the Town may, at its option, enter immediately upon the land and take whatever steps it deems necessary to meet the emergency.

7. The Town shall not pay any compensation at any time for its use of the Property in any way necessary for the inspection and maintenance of the facility, including access to the facility.

8. In the event the Town, pursuant to this Agreement performs work or expends any funds necessary for the maintenance of the Facilities, including labor, equipment, supplies and materials, the Owner shall reimburse the Town, within ten (10) days after the Town gives the Owner written notice of such expenditures.

9. The Owner, its executors, administrator, assigns and any other successors in interest, shall indemnify and hold harmless the Town and its agents and employees for any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the Town arising out of or resulting from the construction, presence, existence or maintenance of the Facilities by the Owner or the Town.

10. In the event a claim is asserted against the Town, its agents or employees, the Town shall promptly notify the Owner and the Owner shall defend at its own expense any suit based on such claim. If any judgment or claim against the Town, its agents or employees shall be allowed, the Owner shall pay all costs and expenses immediately.

11. This Agreement shall be recorded in the Prince William County Circuit Court Clerks office, shall constitute a covenant running with the land, and shall be binding upon its administrators, executors, assigns, heirs and any other successors in interest.

12. All notices herein shall be in writing and shall be hand delivered to the parties or sent by registered or certified mail, return receipt requested, postage paid, addressed to the parties as follows:

To the Town:	Director of Public Works 17739 Main Street Dumfries, VA 22026
With copy to:	Town of Dumfries Attorney 17739 Main Street Dumfries, VA 22026
To Owner:	_____
	_____
	_____
With copy to:	_____
	_____

Such notice shall be deemed to have been given upon hand delivery or upon deposit in the mail as aforesaid. Any change of persons or addresses shall be provided in the aforesaid manner.

13. Any amounts owed to the Town and not paid within ten (10) days of the date of notification shall be the joint and several obligations of all the successors in interest of the Owner. The full amounts owed shall be liens on the Property and on each and every portion of the Property. Liens shall be recorded by the Prince William County Assessor in the Lien Book, which shall be maintained in a location designated by the Prince William County Assessor and accessible to the public.

WITNESS the following signatures and seals.

By: _____

_____
Name Title

COMMONWEALTH OF VIRGINIA
TOWN/COUNTY OF _____, to wit

The foregoing instrument was acknowledged before me, the undersigned notary public by _____ on this ____ day of _____, 20____.

_____
Notary Public

My commission expires:_____

The foregoing deed of easement from _____ is hereby accepted the _____ day of _____, 20____, pursuant to authority granted by Section 26-42 of the 2005 Richmond Town Code.

TOWN OF DUMFRIES

By_____
Town Attorney

Prepared and approved as to form:

_____

GRANTEE ADDRESS:
Department of Public Works
17739 Main Street
Dumfries, VA 22026

APPENDIX J

#		Town of Dumfries Parcel Info				Practice Description				Practice Location					Practice Inspection	
	Date Installed	Project Name	address	Zip code	GPIN	BMP Type	Total Acres Treated	Impervious Acres Treated	Maintenance Agrmt	Public or Private	HUC 6	HUC12	Latitude	Longitude	Inspect Date 2	Inspect Date 3
001	1999	Eastman Keyes Subdivision Lots 14 & 15	17865 Main St	22026	8189-70-7973 (Lot 14) 8189-70-8078 (Lot 15)	Filtering Practices	1.13	0.39	no	private	PL52	020700110104	38.564736	-77.329162	N/A	N/A
002	1999	Allegiance Center	17277 Jefferson Davis Highway	22026	3789-75-5414	Filtering Practices	4.88	1.73	no	private	PL52	020700110104	38.57708	-77.312198	N/A	N/A
003	8/30/2012	Pointe Center	3600 Pointe Center Ct.	22026	8289-02-4067	Filtering Practices	4.409	2.61	no	private	PL52	020700110104	38.568911	-77.320184	N/A	N/A
004	2003	Select Auto Service	17575 Old Stage Coach Road	22026		Filtering Practices	1.3	1.21	no	private	PL52	020700110104	38.570853	-77.318477	N/A	N/A
005	2001	Capital Auto	17484 Jefferson Davis Highway	22026	8289-03-8693	Filtering Practices	2.17	n/a	no	private	PL52	020700110104	38.573017	-77.31802	N/A	N/A
006	2002	Phillip C. Clarke Electrical Contractor, Inc.	3470 Canal Road	22026	8289-02-8215, 8289-02-9004; and 8289-11-0495	Dry Extended Detention Pond	2.9634	N/a	no	private	PL52	020700110104	38.567459	-77.317212	N/A	N/A
007	2002	A-Annandale Revision	3458 Canal Road	22026	8289-01-7264	Filtering Practices	1.123	0.91	no	private	PL52	020700110104	38.567085	-77.318585	N/A	N/A
008	9/27/2006	Majestic Glass & Mirror	17944 Main Street	22026	8189-70-2425	Filtering Practices	0.6177	0.393	no	private	PL52	020700110104	38.563381	-77.330868	N/A	N/A
009	2003	Eastman Keyes Subdivision Lots 9	3912 Lansing Court	22026	8189-70-6549	Filtering Practices	0.545	0.285	no	private	PL52	020700110104	38.564017	-77.329397	N/A	N/A
010	2004	Acts (New Facility)	3901 Acts Lane	22026	8189-70-6618	Filtering Practices	0.2366	0.17	no	private	PL52	020700110104	38.563086	-77.329265	N/A	N/A
011	3/23/2015	Grace Church	17889 Fraley Blvd	22026	8189-91-2623	Filtering Practices	6.41	1.51	no	private	PL52	020700110104	38.566034	-77.323503	N/A	N/A
012	2011	Dr. King's Property (Phase II)	17861 Main Street	22026	8189-70-8078, 8189-70-7973	Filtering Practices	1.1676	0.4186	no	private	PL52	020700110104	38.564449	-77.328636	N/A	N/A
013	1/1/2000	Stepp Partnership Building Addition	17863 Old Triangle Rd	22026	8188-88-0840, 8188-88-1150, 8188-88-1361	Filtering Practices	1.3124	0.25	no	private	PL52	020700110104	38.558218	-77.327858	N/A	N/A
014	3/13/2009	Dumfries Business Center	17209 Jefferson Davis Highway	22026	8289-25-5414; 8289-24-9498	Dry Extended Detention Pond	4.8248	2.38	no	private	PL52	020700110104	38.575821	-77.311605	N/A	N/A
015	2/15/2006	E.T. Warehouse		22026	8189-70-6414	Filtering Practices	0.218	0.124	no	private	PL52	020700110104	38.562982	-77.328961	N/A	N/A
016	2007	Potomac Hotels	18250 Jefferson Davis Hwy	22026	8188-67-7083	Filtering Practices	4.87	3.08	no	private	PL52	020700110104	38.573439	-77.317169	N/A	N/A
017	10/1/2010	Town Center Complex	17739 Main Street	22026	8189-81-6475	Bioretention	0.9539	0.7365	no	Public	PL52	020700110104	38.567469	-77.325873	N/A	N/A

018	2017	Town Center Complex	17739 Main Street	22026	8189-81-6476	Permeable Pavers			no	Public	PL52	020700110104	38.566394	-77.326601	6/2/2017	11/4/2019
019	2005	North Pointe Center	17612 Main Street	22026	8289-02-4470	Filtering Practices	1.79	1.37	no	private	PL52	020700110104	38.570235	-77.32079	N/A	N/A
020	2012	Danforth Homes	17678 Possum Point Road	22026	8289-11-0495	Filtering Practices	2.26	0.84	no	private	PL52	020700110104	38.56827	-77.31722	N/A	N/A
021	2003	Potomac Cove	17640 Overlook Road	22026	8289-12-0963	Dry Extended Detention Pond	13.42	12.97	no	private	PL52	020700110104	38.569682	-77.317252	6/2/2017	N/A
022	2010	Knolls of Dumfries	18020 Tebbs Lane	22026	8188-69-1470	Dry detention	0.09325		no	private	PL52	020700110104	38.561791	-77.334613	6/2/2017	11/1/2019
023	2010	Knolls of Dumfries	18140 Tebbs Lane	22026	818-59-7733	Dry detention	8.6188		no	private	PL52	020700110104	38.559164	-77.33709	6/2/2017	11/1/2019
024		Hampsted Landing	17569 Summer Duck	22026	8289-22-5969	Dry detention	8.6188		no	private	PL52	020700110104	38.569478	-77.31191	6/2/2017	11/1/2019

APPENDIX K

Town of Dumfries, Virginia

Integrated Town Good-Housekeeping SOPs & DPW Maintenance Shop SWPPP

Reporting Period: October 1, 2018 – September 30, 2023
MS4 General Permit Registration Number: VAR040117

In compliance with the Virginia Stormwater Management Program (VSMP) MS4 permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4)

An Up-To-Date Copy of this Document Must Remain On-Site at 2460 Canal Road

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ATTACHMENTS

ATTACHMENT 1 DPW MAINTENANCE SHOP SITE PLAN
ATTACHMENT 2 MS4 GENERAL PERMIT AUTHORIZED NON-STORMWATER DISCHARGES
ATTACHMENT 3 UNAUTHORIZED DISCHARGE FORM
ATTACHMENT 4 DPW MAINTENANCE SHOP STORMWATER INSPECTION CHECKLIST

ACRONYMS & ABBREVIATIONS

BMP	Best Management Practice
CFR	Code of Federal Regulations
TOD	Town of Dumfries
DEQ	Virginia Department of Environmental Quality
DPW	Town of Dumfries Department of Public Works
MS4	Municipal Separate Storm Sewer System
PWC	Prince William County
SOP	Standard Operating Procedures
SWPPP	Stormwater Pollution Prevention Plan
VAC	Virginia Administrative Code
VDOT	Virginia Department of Transportation
VPDES	Virginia Pollution Discharge & Elimination System Permit

DEFINITIONS

DISCHARGE	1. Any addition of any pollutant or combination of pollutants to surface waters from any point source; or 2. Any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation
HIGH -PRIORITY FACILITY	Facilities owned or operated by the TOD that actively engage in one or more of the following activities: (i) composting, (ii) equipment storage and maintenance, (iii) materials storage, (iv) pesticide storage, (v) storage for public works, (vi) recycling, (vii) salt storage , (viii) solid waste handling and transfer, and (ix) vehicle storage and maintenance.

Document

Integrated Town Good-Housekeeping SOPs & DPW Maintenance Shop SWPPP
Effective Date: April 16, 2020

PURPOSE

The purpose of this document is to provide a single source of consistent direction for DPW staff in minimizing potential stormwater pollutant discharges through implementation of site-specific good-housekeeping practices at the DPW Maintenance Shop and during completion of DPW operations occurring throughout Dumfries. This combined document provides the necessary activity SOPs as well as the individual SWPPP requirements outlined in the MS4 General Permit for the DPW Maintenance Shop.

SWPPP CERTIFICATION

The SWPPP and all related reports are signed by a person described in Part II K 4 of the VPDES General Permit or by a "Duly Authorized Representative" of that person.

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

Name: _____ Signature: _____

Title: _____ Date: _____

ANNUAL REVIEW CERTIFICATION

Annual Review Date: _____ Updates Incorporated:[1] □ Yes □ No Designated Authority Initials: _____

Annual Review Date: _____ Updates Incorporated: □ Yes □ No Designated Authority Initials: _____

Annual Review Date: _____ Updates Incorporated: □ Yes □ No Designated Authority Initials: _____

Annual Review Date: _____ Updates Incorporated: □ Yes □ No Designated Authority Initials: _____

ADDITIONAL MODIFICATIONS

Modification Date: _____ Designated Authority Initials: _____

Modification Date: _____ Designated Authority Initials: _____

Modification Date: _____ Designated Authority Initials: _____

Modification Date: _____ Designated Authority Initials: _____

[1] Updates and modifications may be inserted as attachments designed to replace entire sections or by placing a single red line through the modified verbiage and hand-writing the new verbiage in place. The verbiage must be initialed and dated.

1.0 INTRODUCTION

The TOD operates a small MS4 within a 1.54 square mile section of southeast PWC, Virginia. In order to protect downstream water quality from pollution, DEQ regulates discharges from the TOD's MS4 under the General VPDES Permit for the Discharge of Stormwater from Small MS4s (MS4 General Permit). Compliance with MS4 General Permit conditions requires the TOD to implement both written standard operating procedures (SOPs) for certain TOD-initiated activities such as road, street and parking lot maintenance; equipment maintenance; and the application, storage, transport and disposal of pesticides, herbicides and fertilizers; as well as, site-specific SWPPPs for high-priority facilities with a high potential of discharging pollutants.

The SOPs, which are applicable jurisdiction-wide, must be designed to:

- Prevent illicit discharges;
- Ensure the proper disposal of waste materials, including landscape wastes;
- Prevent the discharge of wastewater or permittee vehicle wash water or both into the MS4 without authorization under a separate VPDES permit;
- Require implementation of BMPs when discharging water pumped from utility construction and maintenance activities;
- Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of BMPs;
- Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and
- Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

Any TOD facility that does not have its own VPDES permit coverage and where any of the following activities may have exposure to stormwater, requires:

- Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
- Materials or residuals on the ground or in stormwater inlets from spills or leaks;
- Material handling equipment;
- Materials or products that would be expected to be mobilized in stormwater runoff during loading or unloading or transporting activities (e.g., rock, salt, fill dirt);
- Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
- Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
- Waste material except waste in covered, nonleaking containers (e.g., dumpsters);
- Application or disposal of process wastewater (unless otherwise permitted); or
- Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.

The DPW is responsible for minor day-to-day operations including maintenance activities (e.g., painting, minor carpentry, plumbing and landscaping) and providing incidental TOD services such as small pothole repair, solid waste collection from TOD properties and winter road maintenance. DPW operations are based at the DPW Maintenance Shop located at 3460 Canal Road, Dumfries, VA 22026 (Figure 1). The TOD considers the DPW Maintenance Shop a high-priority facility with the high potential of discharging pollutants. As such, this facility requires an individual HP-SWPPP.

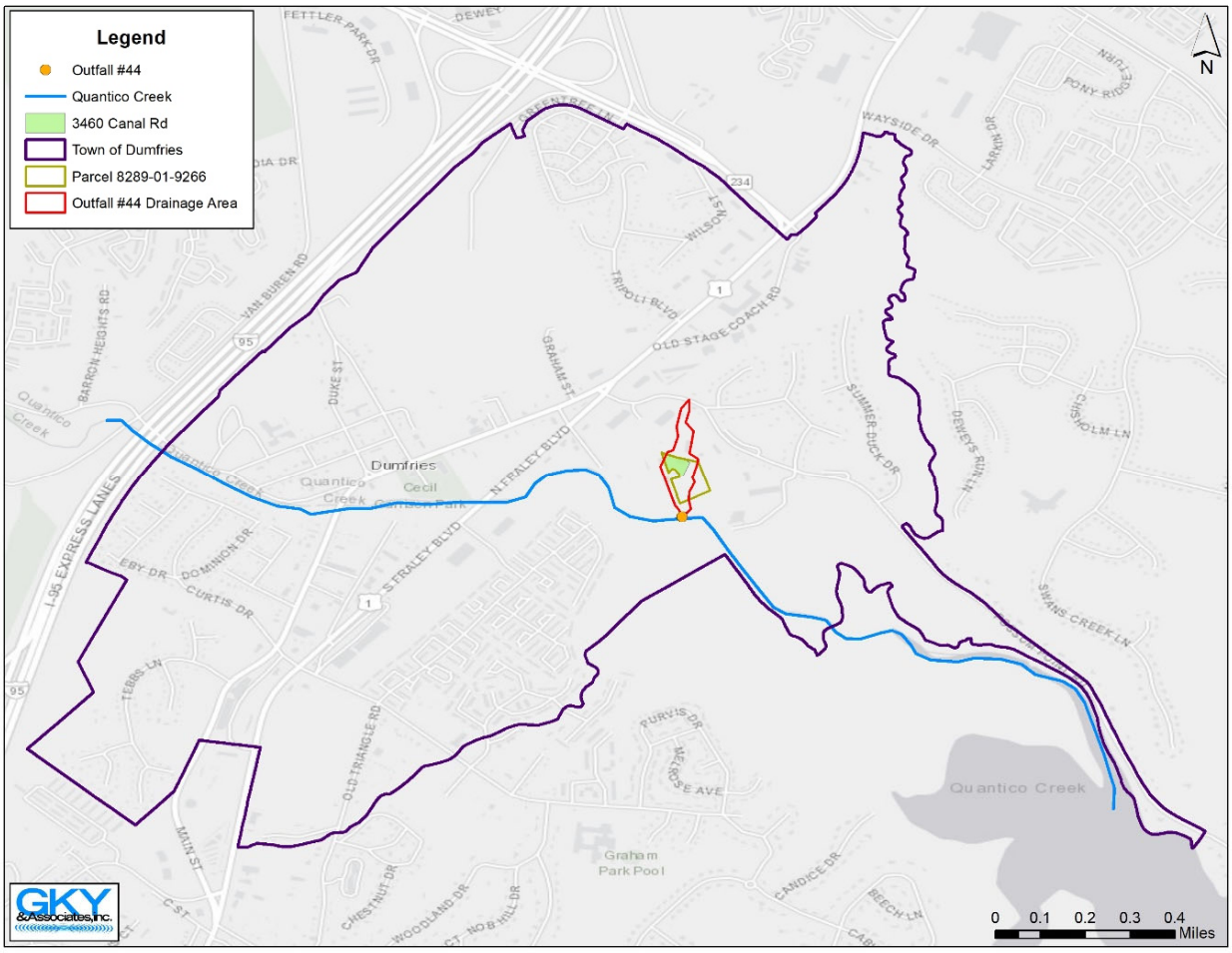


Figure 1. The DPW Maintenance Shop is located at 3460 Canal Road, Dumfries, VA 22026 in the tidal portion of the Quantico Creek watershed. Quantico Creek is a tributary of the Potomac River and Chesapeake Bay watershed.

2.0 DPW MAINTENANCE SHOP

The DPW Maintenance Shop is located on a fenced 0.8-acre portion of a 4.144-acre TOD-owned parcel (GPIN 8289-01-9266) and consists of the following:

- One (1) maintenance building, approximately 6,000 square feet in size (**Attachment 1,** Letter A);
- One (1) covered salt spreader storage area (**Attachment 1,** Letter B);
- Two (2) aggregate storage areas (**Attachment 1,** Letter C);
- One (1) covered salt/sand material storage area (**Attachment 1,** Letter D);
- One (1) fenced dumpster pad with two dumpsters (**Attachment 1,** Letter E);
- A gravel service road, which bisects the facility;
- A small, vegetated area beside the building; and
- Limited asphalt parking.

The remaining portion of the facility lacks constructed stormwater infrastructure and is gravel-covered with limited outside storage of DPW vehicles and equipment. Concentrated off-site stormwater runoff enters from the northwest corner of the parcel and flows through the DPW Maintenance Shop parallel with the gravel road. Site stormwater from the southern side of the service road (i.e., the salt, aggregate and salt spreader storage areas) mingles off-site generated stormwater and exits through **Drainage Point #1 (Latitude 38.56717, Longitude -77.31821)**. Stormwater runoff from north of the service road (i.e., building and dumpsters) combines with off-site generated stormwater and exits through **Drainage Point #2 (Latitude 38.56706, Longitude -77.31815)**. Both Discharge Points discharge into Quantico Creek through the **TOD's MS4 Drainage Area #44**.

2.0.1. Potential Pollutant and Source Assessment

There is minimal opportunity for non-stormwater discharge reaching receiving waters from the DPW Maintenance Shop. Condensate from the maintenance building's heat pump is discharged into the sanitary sewer via a connection to the utility sink. One interior floor drain is tied to an oil/water separator. The Town does not actively use oil/water separator; however, flow may enter the drain during heavy rain events or in emergency situations when a vehicle has a serious leak. The Town noted during its last maintenance (approximately 2017) the oil/water separator did not have an outlet structure to discharge any collected fluids.

Table 1 provides a description of potential non-stormwater discharges that may originate from the DPW Maintenance Shop.

Table 1. Potential DPW Maintenance Shop Non-Stormwater Discharges

Non-Stormwater Discharge	Potential for Discharge	Description
Potable Water Sources	Minimal	There is a minimal potential for the discharge of potable water from the use of an exterior faucet located outside of the maintenance building. However, it is expected that most, if not all, potable water discharges will infiltrate into the gravel on-site and not be discharged.
Illicit Discharge	Minimal	There is a minimal potential for an illicit discharge associated with spills and accidental releases. Given that the current composition of the facility lot is gravel, it is not anticipated that such spills or accidental releases will be sufficient in quantity to migrate off of the City.

The following non-stormwater discharges are not anticipated to originate at the DPW Maintenance Shop as part of day-to-day operations:

- Landscape irrigation
- Diverted stream flow
- Rising groundwater
- Uncontaminated groundwater infiltration
- Uncontaminated pumped groundwater
- Foundation drains
- Water line flushing
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Discharges from non-commercial fundraising car washes
- Discharges or flows from firefighting activities
- Other activities authorized by DEQ

Table 2. provides a list of potential stormwater pollutants and their associated sources. The appropriate SOPs that contain site specific pollution prevention and good housekeeping practices are also provided.

Table 2. Potential Stormwater Pollutants, Sources and Applicable SOPs

Potential Stormwater Pollutant	Source
Sodium chloride	Deicing materials not stored entirely under cover.
	Deicing materials spilled during loading and unloading process not brushed under cover.
	Salt spreader not properly stored in designated storage area
Sediment	Aggregate storage areas uncovered or improperly covered.
	Concentrated off-site stormwater actively eroding gravel parking lot and service road.
Trash, debris and floatables	Dumpster lids not closed and drain plugs removed.
	Refuse is not properly disposed of in covered containers such as the dumpsters.
Automotive and equipment storage (i.e., brake fluid, hydraulic fluid, antifreeze, oil and gasoline)	Proper good housekeeping and pollution prevention not employed on leaking vehicles or other spills and releases
Paints, solvents and other routinely used chemicals	Proper good housekeeping and pollution prevention not employed on other spills and releases

3.0 SOPS FOR STORMWATER POLLUTION CONTROL

The TOD has developed SOPs that incorporate general stormwater pollution prevention and good housekeeping practices for implementation by TOD staff during their day-to-day operations. Site-specific SOPs requiring implementation at the DPW Maintenance Shop have been underlined.[2]

3.0.1 Vehicle and Equipment Operation, Maintenance and Storage

- Vehicles and equipment should only be operated in proper working condition.
  - Routine maintenance activities, such as vehicle oil changes, and major maintenance on both equipment and vehicles should be scheduled and completed by the TOD-retained contractor.
  - Minor maintenance activities should be completed in the maintenance building.
  - Drip pans or absorbent materials should be utilized to capture leaking fluids until maintenance is completed and leaks eliminated.
- Rinsing of dirt and dust from vehicles and equipment without using soap should be completed on pervious surfaces where the potable water is absorbed into the ground. More intensive washing or if soap is to be used, then complete washing at a commercial carwash facility.
  - Vehicle and equipment wash water containing soap and other chemicals cannot be discharged into the storm sewer system.
    - Small, reusable equipment, such as paint brushes, can be cleaned using soap and water provided the wastewater is disposed into the sanitary sewer.
      - When possible, use the sink located in the maintenance building.
  - Chemicals used to clean other equipment must be collected and properly disposed.
    - Rinse water from equipment used in concrete or cement application (e.g., wheelbarrows) must be collected and allowed to evaporate. The remaining waste can be disposed of in accordance with the solid water management SOPs.
- Vehicles should be parked away from storm drains, stormwater conveyances and natural waterways whenever possible.
- Use appropriate BMPs, such as filter bags, to minimize sediment discharge when using equipment such as pumps to dewater pits associated with any utility construction or maintenance activities
- Equipment, such as lawn mowers, chainsaws, weed whackers, leaf blowers, etc., should be stored indoors and protected from precipitation.
  - Equipment stored at the DPW Maintenance Shop must be stored inside the maintenance building when not in use.

[2] Underlined SOPs are site-specific to the DPW Maintenance Shop as part of the site-specific SWPPP.

3.0.2 Fueling Operations

- Obtain fuel for vehicles and portable fuel containers from the TOD's fueling contractor facility.
- Do not overfill vehicles, equipment or portable containers.
- Spills and releases should be cleaned up immediately.
  - Small spills and releases should be cleaned up using dry collection methods.
    - Do not wash fuel spills into the storm drainage system.
  - Call 911 for large spills
    - Notify the DPW Director as soon as 911 has been called.
- Portable fuel containers and equipment containing fuel should be stored under cover and protected from precipitation and runoff.
  - Portable fuel containers are to be leak-proof with secured caps and transported to work sites in such a manner as to prevent spills or releases.
  - Portable fuel containers are to be stored inside fuel storage the maintenance building.

3.0.3 Solid Waste Management

- Solid wastes resulting from maintenance operations should be collected and disposed of in garbage and trash containers.
- Sweep parking lots, storage areas and driveways as needed to collect dirt, waste and debris.
  - The pressure washing of such areas is not recommended.
    - Do not use chemicals in combination with pressure washing
    - Install necessary BMPs to collect petroleum, sediment and solid wastes prior to discharge into the storm drainage infrastructure.
- Garbage and trash containers should be stored indoors or undercover, whenever possible.
  - Lids should be placed on outdoor trash containers to minimize exposure to precipitation.
  - Trash containers should be inspected as part of routine maintenance with damaged items repaired or replaced.
- Trash and garbage should be placed at the site-specific designated location in time for collection by the TOD-retained garbage contractor.
- Trash and garbage from the DPW Maintenance Shop, Gin Park and Merchant Park, should be collected and placed in the DPW Maintenance Shop dumpsters.
  - DPW Maintenance Shop dumpster lids should remain closed and drainage plugs in place at all times.
  - Collected wastes should not be stored outside of the dumpsters. All wastes should be placed securely within the dumpsters.
  - Hazardous wastes should not be placed in the dumpsters. Hazardous wastes disposal should be coordinated with the PWC landfill.

3.0.4 Landscape Management

- Apply mulches and other landscaping elements in such a manner as to not interfere with the operational function of nearby stormwater management infrastructure.
- TOD staff are not to apply herbicide or pesticides.
  - Herbicide and pesticide must be applied in accordance to manufacturer's specifications by a Virginia Pesticide Control Act certified contractor, which is retained by the TOD.
- TOD staff should apply fertilizer in accordance with manufacturing specifications during planting operations.
  - Broad-scale fertilizer application should be completed according to manufacturer's specifications by a licensed contractor retained by the TOD, not Town staff.
- During mowing applications, grass clippings should be blown away from stormwater infrastructure such as street gutters and inlets.
  - Do not dispose of grass clippings, leaves and other debris in the storm sewer system.
- Large landscape debris should be collected and disposed up by the TOD-retained landscaping contractor.
- Small landscape debris collected by DPW should be collected and placed in the DPW Maintenance Shop dumpsters.

3.0.5 Materials Management

- Large construction and maintenance activities are to be completed by TOD-retained contractors.
  - Contractors are responsible for the management of all materials used during completion of the assigned task.
- For small construction and maintenance activities, TOD staff are to use only the amount of materials necessary to complete the assigned task.
- Paints, concrete mix, acids, and other materials are to be stored inside the maintenance building and out of the way of foot and equipment traffic (e.g., storage shelves or cabinets, the flammables cabinet where applicable).
- Spills and accidental releases are to be cleaned up immediately using dry collection methods.
  - Spills and releases in the maintenance building should be prevented from entering the floor drains if possible. If a spill or release enters the floor drain, the oil/water separator should be inspected to see if clean-up/maintenance is required.
- Wash waters, mop waters or other materials used during the preparation, completion or clean-up of minor maintenance and housekeeping activities are not to be disposed into the storm drainage infrastructure.
- Aggregate storage piles should be covered by a weighted water-proof cover to prevent precipitation mixing with the aggregate.
  - The tarp or other cover must be secured well and be free of tears and rips.
  - Aggregate storage piles should be maintained in such a way that concentrated stormwater flow cannot undercut the storage piles and scour the aggregates away.
  - After each use, ensure that the material is fully contained within roofed area or waterproof covering (e.g., sweep material back into bulk storage bay).

3.0.6 Winter Weather Management

- Deicing materials are not to contain urea or other nutrients.
- Small amounts of deicing materials (e.g., bags, buckets) should be stored undercover and protected from precipitation.
    - When applying by hand, sufficient deicing materials should be applied to ensure a safe environment without over application.
- Salt spreaders should be calibrated so as to apply deicing materials in accordance to VDOT specifications.
- Bulk deicing materials (i.e., salt) should be stored in the covered salt / sand storage facility. The material should be maintained in such a way that concentrated stormwater flow cannot undercut the storage pile and scour the deicing materials away.
    - After loading or unloading activities, spilled deicing materials must be swept back under the domed area where it is protected from contact with precipitation.
    - Salt spreaders should be stored under the roofed storage area when not in use.

The TOD retains numerous local contractors for assistance with various aspects of its day-to-day operations. When appropriate, the Town addresses specific stormwater pollution prevention requirements as part of an individual contract or purchase order proposal. It is the responsibility of the individual contractors to ensure that their procedures meet all applicable federal, state, and local regulations. The current list of TOD-retained contractors and their responsibilities is available from the TOD DPW Director's Office.

4.0 TRAINING

The TOD MS4 Program Plan includes a staff training schedule. A Microsoft PowerPoint presentation specific to increasing staff awareness of the Integrated Town Good-Housekeeping SOPs & DPW Maintenance Shop SWPPP has been developed for inclusion in TOD staff training.

5.0 UNAUTHORIZED DISCHARGES TRACKING AND REPORTING

The TOD has created a map of its MS4, which is included in the current MS4 Program Plan and available from the DPW Director, as well as, the TOD webpage. The MS4 General Permit allows for the TOD to discharge stormwater and certain non-stormwater discharges into downstream receiving waters through its MS4. These authorized discharges, which are listed in Attachment 2, can be discharged directly to the downstream receiving waters or indirectly through a physically interconnected MS4 operated by either VDOT or Prince William County. Discharges from the MS4 that enters downstream receiving waters other than those authorized under the MS4 General Permit are considered unauthorized discharges and require additional TOD actions including notification, reporting and documentation and follow-up. An Unauthorized Discharge Form (Attachment 3) should be completed for each Unauthorized Discharge. The Unauthorized Discharge Form is a tool for use during and after an Unauthorized Discharge to document that the necessary information. Necessary contact information is included on the back to the form.

6.0 SOP REVIEW & DPW MAINTENANCE FACILITY SWPPP INSPECTIONS

The TOD-wide SOPs and DPW Maintenance Shop-specific pollution prevention strategies must be implemented as outlined in this plan. Modifications in how any of the SOPs or pollution prevention strategies are implemented must be documented in an update version of this plan. Additionally, the TOD must conduct an annual inspection at the DPW Maintenance Shop to:

1. Ensure that the SOPs and pollution prevention strategies are being implemented as described in this document;
2. Document that the SOPs and pollution prevention strategies are sufficient in minimizing stormwater pollutant runoff from the shop;
3. Identify any new sources of potential stormwater pollution at the shop; and
4. Identify any necessary maintenance requirements or modifications to the SOPs and pollution prevention strategies to more effectively control stormwater pollutants.

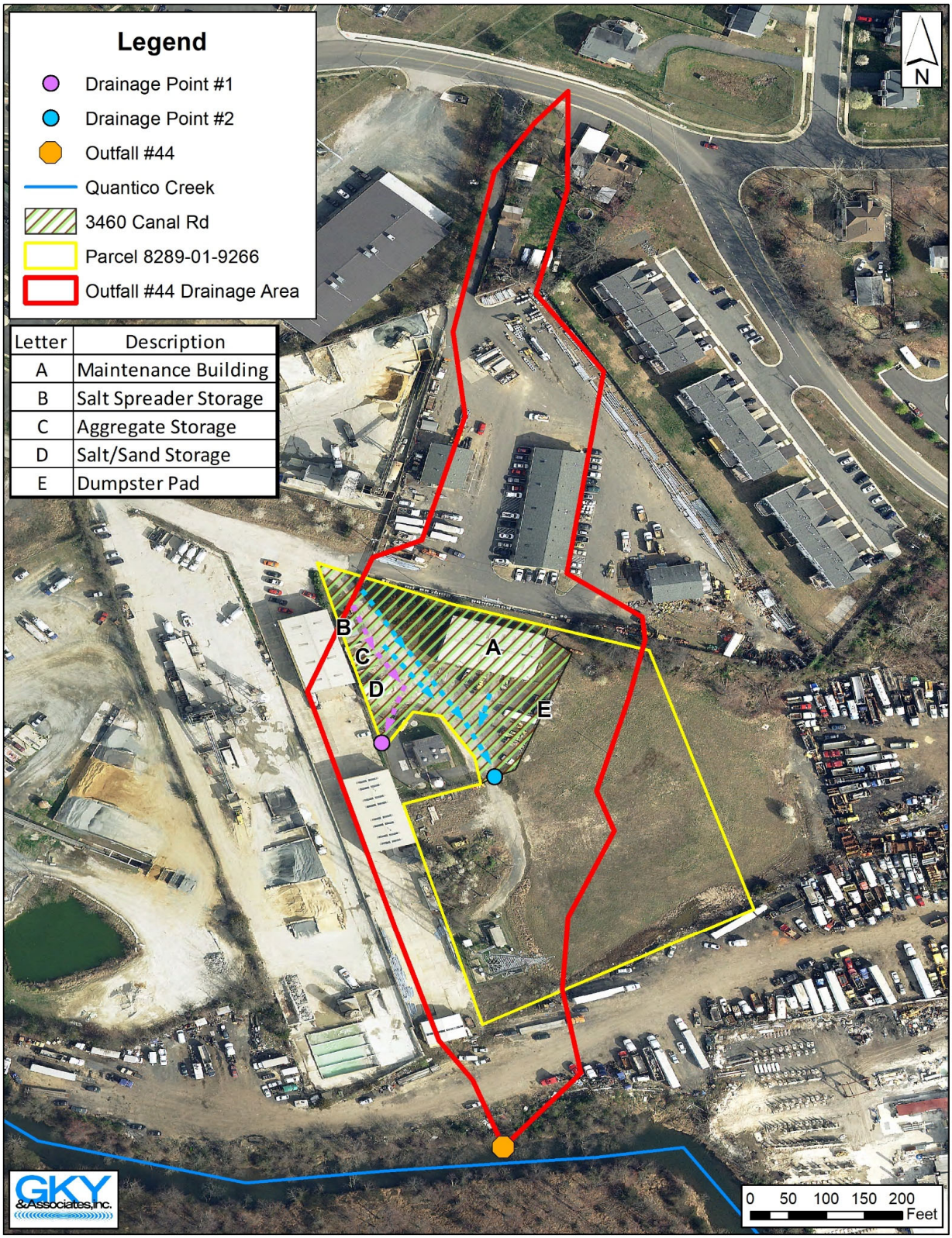
Review of this document including the physical description of the DPW Maintenance Shop, potential pollutant sources, SOPs, and DEQ reporting requirements should be scheduled concurrent to the required annual comprehensive shop site evaluation, which must occur once between November 1 and October 31.

The combined evaluation should consist of the following:

1. Complete a DPW Maintenance Shop site evaluation using the Stormwater Inspection Checklist (Attachment 4).
    a. Schedule and document completion of any identified corrective actions.
2. Review the Integrated Town Good-Housekeeping SOPs & DPW Maintenance Shop SWPPP for the following:
    a. Is the DPW Maintenance Shop site plan still accurate?
    b. Are the potential sources of non-stormwater and stormwater pollutants at the DPW Maintenance Shop still accurate?
    c. Do the current SOPs adequate address potential stormwater pollutants associated with all TOD operations and DPW Maintenance Shop activities?
        i. Identify any necessary required modifications to the SOPs
        ii. Identify any additional SOPs that must be included.
    d. Is the Unauthorized Discharge Reporting information still accurate?
        i. Be sure to check web links and phone numbers
3. Update the Integrated Town Good-Housekeeping SOPs & DPW Maintenance Shop SWPPP to address those items needing modified[3].
    a. Complete the Annual Review Certification on page 4 of the Integrated Town Good-Housekeeping SOPs & DPW Maintenance Shop SWPPP.
4. Integrate any SOP modifications into the TOD stormwater employee training program.

[3] Updates may be inserted as attachments designed to replace entire sections or by placing a single red line through the modified verbiage and hand-writing the new verbiage in place. The verbiage must be initialed and dated.

ATTACHMENT 1. DPW MAINTENANCE SHOP SITE PLAN


Legend
Drainage Point #1
Drainage Point #2
Outfall #44
Quantico Creek
3460 Canal Rd
Parcel 8289-01-9266
Outfall #44 Drainage Area
Letter | Description
A | Maintenance Building
B | Salt Spreader Storage
C | Aggregate Storage
D | Salt/Sand Storage
E | Dumpster Pad
N
A
B
C
D
E
GKY &Associates,Inc.
0 50 100 150 200
Feet

ATTACHMENT 2. MS4 GENERAL PERMIT AUTHORIZED NON-STORMWATER DISCHARGES

D. Non-stormwater discharges or flows into the small MS4 are authorized and do not need to be addressed in the MS4 program if:

1. The non-stormwater discharges or flows are covered by a separate individual or general VPDES or state permit for non-stormwater discharges;
2. The individual non-stormwater discharges or flows have been identified by the department as de minimis discharges that are not significant sources of pollutants to surface waters and do not require a separate VPDES permit;
3. The non-stormwater discharges or flows are identified in this subdivision D 3 and have not been identified by the operator or by the board as significant contributors of pollutants to the small MS4:
    a. Waterline flushing, managed in a manner to avoid an instream impact;
    b. Landscape irrigation;
    c. Diverted stream flows;
    d. Rising groundwaters;
    e. Uncontaminated groundwater infiltration, as defined at 40 CFR 35.2005(20);
    f. Uncontaminated pumped groundwater;
    g. Discharges from potable water sources;
    h. Foundation drains;
    i. Air conditioning condensation;
    j. Irrigation water;
    k. Springs;
    l. Water from crawl space pumps;
    m. Footing drains;
    n. Lawn watering;
    o. Individual residential car washing;
    p. Flows from riparian habitats and wetlands;
    q. Dechlorinated swimming pool discharges;
    r. Street wash water;
    s. Discharges or flows from firefighting activities;
    t. Discharges from noncommercial fundraising car washes if the washing uses only biodegradable, phosphate-free, water-based cleaners; or
    u. Other activities generating discharges identified by the department as not requiring VPDES authorization.
4. The immediate discharge of materials is necessary to protect life or property as determined by fire department personnel or emergency management officials or any discharge in accordance with 9VAC25-31-40. The operator shall take, or ensure that the responsible party takes, all reasonable steps to minimize or prevent any adverse effect on human health or the environment. This state permit does not transfer liability for a spill itself from the party responsible for the spill to the operator nor relieve the party responsible for a spill from the reporting requirements of 40 CFR Part 117 and 40 CFR Part 302.

ATTACHMENT 3. UNAUTHORIZED DISCHARGE FORM

(Copy as Necessary)

(Insert a Completed Copy into the

Integrated Town Good-Housekeeping SOPs & DPW Maintenance Shop SWPPP)

Unauthorized Discharge Form

Discharge Information		
Date of Incident		
Time of Incident		
Material Discharged		
Location of Unauthorized Discharge		
Impacted Watershed		
Dumfries MS4 Drainage Area / Outfall		
Did the Unauthorized Discharge Originate from the DPW Maintenance Shop?	□ Yes	□ No
Did the Unauthorized Discharge Enter A Physically Interconnected MS4?	□ Yes	□ No
Name of the Physically Interconnected MS4	□ VDOT	□ PWC
Was the Physically Interconnected MS4 Notified?	□ Yes	□ No
Nature and Cause of the Unauthorized Discharge		
Has the Unauthorized Discharge Been Eliminated?	□ Yes	□ No
If Not, How Long is the Unauthorized Discharge Expected to Continue?		
Estimated Quantity of Material Discharged or Expected to be Discharged		
DEQ Reporting (Applicable to All Unauthorized Discharges)		
If the Town "discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance or a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302, or § 62.1-44.34:19 of the Code of Virginia that occurs during a 24-hour period into or upon surface waters or who discharges or causes or allows a discharge that may reasonably be expected to enter surface waters shall notify the department of the discharge immediately upon discovery of the discharge, but in no case later than within 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the department within five days of discovery of the discharge."		
Was DEQ Notified via the DEQ PREP Web Site within 24-Hours of the Unauthorized Discharge?	□ Yes	□ No
Was DEQ Provided a Written Follow-Up within Five-Days of the Unauthorized Discharge?	□ Yes	□ No
DPW Maintenance Shop SWPPP Update (Applicable Only to 3460 Canal Road Unauthorized Discharges)		
The Town must review the contents of the SWPPP no later than 30-days after any reported unauthorized discharge, release, or spill to determine if additional measures are necessary to prevent future unauthorized discharges. If necessary, the SWPPP shall be updated no later than 90-days after the unauthorized discharge.		
Was the DPW Maintenance Shop SWPPP Reviewed to Determine If Additional Measures Are Necessary to Prevent Future Unauthorized Discharges?	□ Yes	□ No
Was the DPW Maintenance Shop SWPPP Updated to Integrate the Identified Additional Measures?	□ Yes	□ No
Date of DPW Maintenance Shop SWPPP Update		

Signature Printed Name Date

Notification

Note: Complete the applicable notifications below.

The Unauthorized Discharge represents a threat to life, safety or environment	→ Notify Prince William County by calling 911 immediately
The Unauthorized Discharge originates from a sanitary sewer or water line	→ Notify the Prince William County Service Authority Emergency Dispatch at (703) 335-7982
The Unauthorized Discharge enters the physically-interconnected VDOT MS4	→ Notify VDOT via e-mail at IDDEReports@VDOT.Virginia.gov
The Unauthorized Discharge enters the physically-interconnected Prince William County MS4	→ Notify the Prince William County Department of Environmental Services via e-mail at illicitdischarge@pwcgov.org

Reporting

Within 24 hours of an Unauthorized Discharge	and	Within 5 days of an Unauthorized Discharge
↓		↓
Submit an initial report to the DEQ Pollution Response Program online https://portal.deq.virginia.gov/prep/Report/Create or by phone at (703) 583-3800.		Submit a written follow-up report to DEQ via mail to 13901 Crown Court, Woodbridge, VA 22193.

Documentation & Follow-Up

Complete an Unauthorized Discharge Tracking Form for all Unauthorized Discharges.

If the Unauthorized Discharge originated at the DPW Maintenance Shop, complete the additional steps:

1. Review the DPW Maintenance Shop SWPPP within 30 days to evaluate if the SWPPP needs modification to prevent a similar Unauthorized Discharge from occurring.
2. If modifications are necessary, update the DPW Maintenance Shop SWPPP within 90 days.
3. Place a copy of the completed Unauthorized Discharge Form in the Integrated Town Good-Housekeeping SOPs & DPW Maintenance Shop SWPPP in order log the release in the SWPPP

ATTACHMENT 4. DPW MAINTENANCE SHOP STORMWATER INSPECTION CHECKLIST

DPW Maintenance Shop Inspection Checklist

Inspection Date		
Current Weather Conditions	Check the box if it has rained within the past 24-hours ☐	
Inspector(s) Names		
Inspector(s) Signatures		

Inspection Checklist

Pollutant Source	Checklist Number	Inspection Checklist	Acceptable	Corrective Action Required
Overall Site	1	The area within the fence line are free of trash, debris and stains from petroleum, paint or other chemicals.	☐ Yes	☐ No
	2	The gravel areas within the fence line are stable and are absent of eroding channels.	☐ Yes	☐ No
	3	The discharge locations are free of active, non-stormwater flows discharging off-site.	☐ Yes	☐ No
Dumpsters	4	The lids on the dumpsters are closed.	☐ Yes	☐ No
	5	The dumpsters' drain plugs are present and in use.	☐ Yes	☐ No
	6	The area around the dumpsters is free of trash, debris and other waste materials.	☐ Yes	☐ No
Aggregate Piles	7	The piles of aggregates are stored undercover and protected from precipitation.	☐ Yes	☐ No
	8	Concentrated stormwater flow is prevented from undercutting the aggregate piles.	☐ Yes	☐ No
Deicing Materials Storage	9	The deicing materials are stored under the dome's cover and protected from precipitation.	☐ Yes	☐ No
	10	Concentrated stormwater flow is prevented from intercepting the deicing materials.	☐ Yes	☐ No
	11	The spreading equipment is stored undercover and protected from precipitation.	☐ Yes	☐ No
Vehicles and Outside Equipment	12	Areas underneath vehicles and outside equipment free of fresh petroleum stains.	☐ Yes	☐ No

Follow-Up

Follow-Up Date	Checklist Number	Corrective Action Required	Completed		Inspector Initials
			☐ Yes	☐ No	
			☐ Yes	☐ No	
			☐ Yes	☐ No	
			☐ Yes	☐ No	
			☐ Yes	☐ No	
			☐ Yes	☐ No	