CITY OF FREDERICKSBURG, VIRGINIA
MS4 General Permit Annual Report

VPDES Registration Number VAR040058
Reporting Period: July 1, 2018- June 30, 2019

City of Fredericksburg
Department of Community Planning & Building Development
715 Princess Anne Street
Fredericksburg, VA 22401
(540) 372-1180

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Acronyms

BMP	Best Management Practice
CBPA	Chesapeake Bay Preservation Act
DCPB	Department of Community Planning and Building
DEQ	Department of Environmental Quality
DPRE	Department of Parks, Recreation and Events
DPW	Department of Public Works
ESC	Erosion and Sediment Control
FOR	Friends of the Rappahannock
IDDE	Illicit Discharge Detection and Elimination
LBS	Pounds
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
POC	Pollutants of Concern (Nitrogen, Phosphorus and Sediment)
R-Board	Rappahannock Regional Solid Waste Management Board
SOP	Standard Operating Procedure
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
T	Tons
TMDL	Total Maximum Daily Load
UMW	University of Mary Washington
VDACS	Virginia Department of Agriculture and Consumer Services
VESCP	Virginia Erosion and Sediment Control Program
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program
YR	Year

Updated Part III. K. Signatory Requirements

Under Part III K 3 of the MS4 General Permit, "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."

As such, the City of Fredericksburg duly authorizes the following City employee titles (positions) to sign reports and other information requested by the State Water Control Board or DEQ.

- Stormwater Administrator
- Senior Stormwater Manager
- Director, Department of Community Planning and Building
- Director, Department of Public Works

"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."

Timothy J. Baroody	12/2/19
Signature	Date
Timothy J. Baroody, City Manager	
Printed Name	Title

MS4 Annual Report Certification

As required by the MS4 General Permit, Part III K 4:

"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."

Signature: Timothy J. Baroody

Date: 12/3/19

Printed Name: Timothy J. BAROODY

Title: City Manager

Required Confirmation Statements

MS4 General Permit Reference	Confirmation Statement	Official or Duly Authorized Representative Initials
Part I E 3 e	"The MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30, 2019."	
Part I E 4 d (1) (a)	Not applicable	
Part I E 5 i (4)	The City of Fredericksburg "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."	
Part I E 5 i (5)	The City of Fredericksburg "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"	

General Permit Information

Permittee	City of Fredericksburg, Virginia
System Name	Fredericksburg MS4
VPDES MS4 General Permit Registration Number	VAR040058
Reporting Period	July 1, 2018 – June 30, 2019
Contact	Charles Johnston, Director, Community Planning and Building Department
Number of New MS4 Outfalls and Associated Acreage Added During Reporting Period	0 new outfalls; 0 additional acreage
MS4 Program Plan Additions, Revisions, Modifications (Part I C 4)	IDDE SOP – Dry Weather Screening, eff. 3/13/19 (Attachment 1) IDDE SOP – Illicit Discharge Tracking and Response, eff. 3/29/19 (Attachment 2) City Shop SWPPP, eff. 4/19 (Available On-Site) Parks & Recreation Shop SWPPP, eff. 4/19 (Available On-Site)

1.0 Introduction

The City is required to submit an annual report to remain in compliance with the MS4 General Permit. This annual report describes the City's collective efforts in stormwater management and updates the progress toward meeting the Best Management Practices (BMPs) for each of the six (6) MCMs and TMDL requirements identified in the MS4 General Permit. This report places emphasis on the accomplishments made in P4/Y1 and other actions undertaken by the City to meet the stated goals. Supporting documentation is provided in the Appendices to this report.

BMP evaluation results for each BMP implemented to satisfy MCM requirements, along with MS4 Program Plan associated changes, are provided below. The evaluation is intended to determine the MS4 program's effectiveness and whether changes to the MS4 Program Plan are necessary.

2.0 MCMs

The six (6) MCMs in the MS4 General Permit form its backbone and make up the basics of what is required in the City's MS4 Program and MS4 Program Plan. Each MCM requires the City to address several specific requirements throughout the MS4 General Permit cycle. The following sections contain a summary of the activities completed as per the MS4 General Permit required reporting items during the permit year for each of the MCMs.

2.1 MCM 1. Public Education and Outreach

MCM 1 details the expectations and requirements of the City's efforts to increase public knowledge and awareness regarding stormwater pollution, anthropogenic impacts to water quality and local water quality concerns.

2.1.1 Required Reporting Items

Table 1 contains the reporting items required by the MS4 General Permit for MCM 1.

Table 1. City of Fredericksburg Responses for Required MS4 General Permit Annual Reporting MCM 1 Items.

MS4 General Permit Reporting Item	City Response
Part I E 1 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	The high-priority stormwater issues identified in the City's MS4 Program Plan are:
	(1) Chesapeake Bay TMDL
	(2) Pet waste management
	(3) Cigarette butts
(2) A list of the strategies used to communicate each high-priority stormwater issue	A summarized description of the strategies employed as part of the City's Public Education and Outreach Program during the reporting period is found in Attachment 3

2.1.2 Evaluation

Part I D 2 e of the MS4 General Permit requires that as part of its MS4 Annual Report, the City evaluate its 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.

The City of Fredericksburg coordinates public education and outreach activities, such as the Wild and Scenic Film Festival, in coordination with various regional partner organizations.

Program Implementation Review

The City's Stormwater Public Education and Outreach Program identifies three high priority stormwater issues. The City used five (5) of the strategies listed in the MS4 General Permit Table 1:

- Traditional Written Materials;
- Alternative Materials;
- Signage;
- Media Materials; and
- Speaking Engagements

The City relies on a combination of City departments, regional organizations and non-profit groups to meet the outreach requirements. This combination of organizations includes the City DPW, DPRE and DCPB, the R-Board, Tree Fredericksburg, Fredericksburg Clean and Green and the FOR. Additionally, the City participates in joint activities with fellow MS4 operators – Stafford County (VA040056) and the UMW (VA040094). The City's coordination with the FOR to provide public education and outreach to City school students resulted in reaching over 1,400 students and chaperones. The FOR's public education, outreach and participation efforts sponsored by the City during the reporting period are provided in Attachment 4. Information regarding the City's stormwater programs, including public education and outreach, is available on the City's website.

The City's 'Please Butt In!' public outreach program uses media materials, signage and alternative materials to reduce the quantity of cigarette butts discharged into the MS4.

Effectiveness Review

While the City's reliance on a variety of organizations provides access to a greater audience, the often-informal reliance on other organizations may cloud the relationship between the delivered message and stormwater management. Effectiveness could be improved by coordinating the City's stormwater-related webpages to deliver a consistent message and providing links to the other relied-upon organizations and how those activities can improve water quality by reducing stormwater pollution. Additionally, effectiveness could be improved by developing formal relationships with the associated organizations to ensure that the desired messages regarding the identified high-priority stormwater issues are delivered and that the information necessary to demonstrate MS4 General Permit compliance is tracked and documented.

stormwater issues are delivered and that the information necessary to demonstrate MS4 General Permit compliance is tracked and documented.

MS4 Program Plan Modifications

The MS4 Program Plan should be updated to ensure that the requirements of the MS4 General Permit Part I E 1 f are clearly described and defined. Formal agreements, such as that with FOR, must be included in the MS4 Program Plan. The updated MS4 Program Plan will improve the effectiveness in delivery of the stormwater public education and outreach program.

2.2 MCM 2. Public Involvement and Participation

Minimum Control Measure 2 (MCM #2) is designed to both keep the public informed of the City's efforts at minimizing pollutant discharge through its MS4 and to encourage public involvement and participation in pollution prevention efforts.

2.2.1 Required Reporting Items

Table 2 contains the reporting items required by the MS4 General Permit for MCM 2.

Table 2. City of Fredericksburg Responses for Required MS4 General Permit MCM 2 Annual Reporting.

MS4 General Permit Reporting Item	City Response
Part I E 2 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	To date, the MS4 program is focused on street cleaning activities for which public input was not sought. Responses to Phase II and Phase III goals are being developed and a public comment opportunity will be provided. Numerous complaints were received; however, they were not tracked. Newly hired staff will be charged with implementing a tracking system.
(2) A webpage address to the permittee's MS4 program and stormwater website	The City's MS4 Program website is: https://www.fredericksburgva.gov/967/Municipal-Separate-Storm-Sewer-Systems-M
	The City's Stormwater website is: https://www.fredericksburgva.gov/476/Stormwater-Management
(3) A description of the public involvement activities implemented by the permittee	See Attachment 5
(4) A report of the metric as defined for each activity and an evaluation as to whether the activity is beneficial to improving water quality	See Attachment 5
(5) The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities	The City collaborated with Stafford County (VAR040056) and UMW (VAR040094) in delivery of its public education, outreach and participation activities

2.2.2 Evaluation

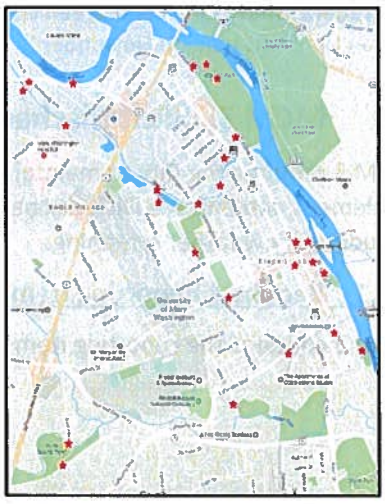
Part I D 2 e of the MS4 General Permit requires that as part of its MS4 Annual Report, the City evaluate its MS4 program implementation, including a review of each MCM, to determine the MS4 program's effectiveness and whether or not changes to the MS4 program plan are necessary. The City sponsored FOR in the delivery of fourteen (14) Rappahannock River watershed cleanup events in which 404 people volunteered 1,042 hours of time to remove 8,490 lbs. of litter from the watershed.

Household Hazardous Waste Collection Day held at the City Shop on September 22, 2018

Program Implementation Review

The City has stormwater and MS4 webpages with contact information for the programs listed. The City must update its webpages to include reference to the MS4 Permit requirements regarding receiving public comments and providing access to portions of the MS4 Program, such as the MS4 General Permit, MS4 General Permit Registration Statement and Public Education and Outreach Plan. The City must improve its collection and tracking of public comments.

The City engaged in the delivery of eight (8) public participation events, including coordinating a Household Hazardous Waste Collection Day, using three (3) opportunity descriptions listed in the MS4 General Permit Table 2.



The City of Fredericksburg has installed and maintains 20 Pet Waste Stations throughout the City.

Effectiveness Review

Currently, City website information regarding stormwater management and the MS4 program is found on two (2) separate webpages – stormwater management under the DPW and MS4 under the DCPB. Effectiveness in delivery and maintenance of public education, outreach and participation could be improved by combining these two webpages under one webpage and providing links to other organizations whose public participation activities are used to meet the requirements of the MS4 General Permit.

Fredericksburg Clean and Green Litter Clean Up Event held on November 3, 2018

MS4 Program Plan Modifications

The MS4 Program Plan should be updated to ensure that the requirements of the MS4 General Permit Part I E 2 e are clearly described and defined. The updated MS4 Program Plan will improve the effectiveness in assuring compliance with the MS4 General Permit public participation requirements and provide direction in updating the City's stormwater and MS4 webpages.

2.3 MCM 3. Illicit Discharge and Elimination

MCM 3 requires the City to maintain a map of the storm sewer system owned and operated by the City, implement and enforce illicit discharge identification and elimination prohibitions and procedures including dry weather screening.

2.3.1 Required Reporting Items

Table 3 contains the reporting items required by the MS4 General Permit for MCM 3.

Table 3. City of Fredericksburg Responses for Required MS4 General Permit Annual Reporting MCM 3 Items.

MS4 General Permit Reporting Item	City Response
Part I E 3 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	0 new outfalls; 0 additional acreage (see confirmation statement on Page 7)
(2) The total number of outfalls screened during the reporting period as part of the dry weather screening program;	Dry weather screening was conducted on a total of 58 City-identified MS4 outfalls between May 16 – 17, 2019 (results are available in Attachment 6)
(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** **(f) The date the investigation was closed**	See Attachment 7

2.3.2 Evaluation

Part I D 2 e of the MS4 General Permit requires that as part of its MS4 Annual Report, the City evaluate its 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.

Program Implementation Review

Chapter 59, Article IV of the City of Ordinances prohibits the illicit discharges into the City's MS4. The stormwater management webpage identifies the City Fire Department as to whom suspected illicit discharges should be reported.

The City utilized a third-party contractor to complete the required dry weather screening.

Effectiveness Review

The City must make sure that individual departments that implement various elements of the illicit discharge detection and elimination program are aware of the reporting requirements of the MS4

General Permit and that communication and actions are documented in such a way as to provide accurate reporting in the MS4 annual report.

MS4 Program Plan Modifications

The MS4 Program Plan should be updated to ensure that the requirements of the MS4 General Permit Part I E 3 d are clearly described and defined.

2.4 MCM 4. Construction Site Stormwater Runoff Control

MCM 4 contains the MS4 General Permit conditions to address discharges to the MS4 from regulated construction site stormwater runoff.

2.4.1 Required Reporting Items

The City operates its local VESCP program with the regulatory authorities provided to local governments through the Virginia General Assembly and does not submit standards and specifications annually to DEQ for approval. Table 4 contains the reporting items required by the MS4 General Permit for MCM 4.

Table 4. City of Fredericksburg Responses for Required MS4 General Permit Annual Reporting MCM 4 Items.

MS4 General Permit Reporting Item	City Response
Part I D 4 d: The annual report shall include the following:	
(2) Total number of inspections conducted	A total of 236 inspections were conducted by the City's Dual Combined Administrators during the reporting period
(3) The total number and type of enforcement actions implemented and the type of enforcement actions	Three (3) re-inspections were conducted by the City's Dual Combined Administrators during the reporting period

2.4.2 Evaluation

Part I D 2 e of the MS4 General Permit requires that as part of its MS4 Annual Report, the City evaluate its 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.

Program Implementation Review

Regulatory authority for addressing the requirements associated with MCM 4 are provided in Chapter 38, Article IV – Virginia Stormwater Management Program and Chapter 78, Article IV – Erosion and Sediment Control. During the reporting period, two (2) City employees held DEQ Dual Combined Administrator certifications. The City also employed one (1) DEQ-certified ESC Combined Administrator and three (3) DEQ-certified ESC Inspectors.

The 236 combined inspections reported as completed during this reporting period were completed by DEQ-certified staff members.

Effectiveness Review

The City must improve retention of its documentation regarding inspection and compliance. This information is not only used in MS4 Annual Reporting but also to demonstrate that the City is fully implementing a local program to meet the requirements of the VESCP, VSMP and CBPA.

MS4 Program Plan Modifications

The MS4 Program Plan should be updated to ensure that the requirements of the MS4 General Permit Part I E 4 c are clearly described and defined. Implementation of the updated MS4 Program Plan will improve documentation and tracking of the City's efforts.

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

MCM 5 contains the MS4 General Permit conditions to address discharges to the MS4 from post-development stormwater runoff.

2.5.1 Required Reporting Items

Table 5 contains the reporting items required by the MS4 General Permit for MCM 5.

Table 5. City of Fredericksburg Responses for Required MS4 General Permit Annual Reporting MCM 5 Items.

MS4 General Permit Reporting Item	City Response
Part I D 5 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**	All private management facilities constructed in, at least, the last five years have been inspected and enforcement actions taken where necessary. However, they were not tracked. Newly hired staff will be charged with implementing a tracking system.
(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	0
(2) Total number of inspections conducted on stormwater management facilities owned or operated by the permittee	0. The City will consider the option to develop and implement an alternative inspection schedule as provided in the MS4 General Permit during the next reporting cycle
(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	The City did not conduct any significant maintenance, repair or retrofit activities on its stormwater management facilities during the reporting period; however, the City did continue routine maintenance using City crews

MS4 General Permit Reporting Item	City Response
(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	See Confirmation Statement on Page 6
(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.	See Confirmation Statement on Page 6

2.5.2 Evaluation

Part I D 2 e of the MS4 General Permit requires that as part of its MS4 Annual Report, the City evaluate its 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.

Program Implementation Review

Regulatory authority for addressing the requirements associated with MCM 5 are provided in Chapter 38, Article IV – Virginia Stormwater Management Program. Data regarding new stormwater management facility installation is retained in the BMP database and maintenance plans are required. During the reporting period, two (2) City employees held DEQ Dual Combined Administrator certifications. The City places increased emphasis on plan review and approval to ensure stormwater management is designed correctly. The City relies upon its bond requirements and bond release inspections to ensure that stormwater management is constructed properly.

The City conducted routine maintenance on City-owned and operated stormwater management facilities but cannot provide documentation that the annual inspection required by the MS4 General Permit was completed. Similarly, the City cannot provide documentation of any inspection or compliance actions initiated by the City on privately-owned stormwater management facilities. The City must improve document retention regarding stormwater management facility inspections and ensure that inspection schedules are developed and implemented consistent with the MS4 General Permit.

Effectiveness Review

Previously developed lands are undergoing redevelopment throughout the City. Pollutant load reductions are being incorporated as part of the City's VSMP implementation. These pollutant load reductions, whether resulting from the installation of stormwater management facilities on-site, the reduction of existing impervious cover or the purchase of nutrient credits can be applied towards

meeting Chesapeake Bay TMDL pollutant load reductions. The City should be sure to collect the necessary data to obtain credit towards meeting Chesapeake Bay TMDL requirements as part of the plan review process.

MS4 Program Plan Modifications

The MS4 Program Plan should be updated to ensure that the requirements of the MS4 General Permit Part I E 5 h are clearly described and defined.

2.6 MCM 6. Pollution Prevention and Good Housekeeping for Facilities Owned or Operated Permittee in the MS4 Service Area

MCM 6 defines the MS4 General Permit's conditions and requirements for minimizing pollutant discharge associated with City facilities and operations.

2.6.1 Required Reporting Items

Table 6 contains the reporting items required by the MS4 General Permit for MCM 6.

Table 6. City of Fredericksburg Responses for Required MS4 General Permit Annual Reporting MCM 6 Items.

MS4 General Permit Reporting Item	City Response
Part I D 6 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	Attachment 8 contains a list of existing City good housekeeping/pollution prevention SOPs and their publication date; no revisions were made to any of these SOPs during the reporting period
(2) A summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period	The City did not develop new SWPPPs for any priority facilities during the reporting period. The City previously identified, and developed SWPPPs for, the City Shop facility and the City Parks and Recreation Shop facility as the only high priority facilities.
(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	The contact information and SOP version references were updated SWPPPS for both the City Shop and the Parks and Recreation Shop were updated in April 2019. The SWPPPs are available at each respective facility. The City did not delist either existing high priority facility 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**	The City did not develop any new nutrient management plans during the reporting period. Attachment 9 contains a summary of the existing nutrient management plans

MS4 General Permit Reporting Item	City Response
(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.**	Attachment 10 summarizes the employee stormwater training events conducted during the reporting period

2.6.2 Evaluation

Part I D 2 e of the MS4 General Permit requires that as part of its MS4 Annual Report, the City evaluate its 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.

Program Implementation Review

The City has developed SOPs for pollution prevention and good housekeeping. Practices identified in the SOPs are used in employee training.

The City has identified two high-priority facilities – the Public Works Shop and the Parks and Recreation Shop. The City did not add or delist any additional facilities during the reporting period. The City has determined that each of these facilities has the high potential for discharging pollutants and, as such, developed SWPPPs for each facility. These SWPPPs were updated during the reporting period and can be found at each respective facility. Additionally, the City has initiated construction of a new salt and sand storage facility to replace the existing facility at the Public Works Shop. Construction is anticipated to be completed during the next reporting cycle.

The City has four nutrient management plans. The Dixon Park Nutrient Management Plan has expired and must be renewed. The City will update and renew the Dixon Park Nutrient Management Plan during the next reporting cycle. The City does not utilize urea or other forms of nitrogen or phosphorus as a deicing agent.

The employee training program is consistent with the MS4 General Permit required schedule as demonstrated in Attachment 11. The City provided training to both DPW and DPRC regarding illicit discharges and SWPPP implementation during the reporting period. The training presentation is provided as Attachment 12. The sign-in sheets and certification that the SWPPPs have been reviewed and are included as Attachment 13. The City also continues to require the appropriate certifications for those implementing VESCP and VSMP programs (Attachment 14), as well as, those applying pesticides for the City (Attachment 15). City emergency personnel maintain a minimum level of training in Hazardous Materials Operations, in accordance with NFPA 1001, NFPA 742 and OSHA 1910.120.

Effectiveness Review

Effectiveness would benefit from formally incorporating the SOPs into the City employee training.

MS4 Program Plan Modifications

The MS4 Program Plan should be updated to ensure that the requirements of the MS4 General Permit Part I E 6 p f are clearly described and defined.

3.0 Part II A Chesapeake Bay TMDL Special Condition

The City operates an MS4 in the Rappahannock River watershed, which is a tributary to the Chesapeake Bay. As such, the MS4 General Permit Part II A, Chesapeake Bay TMDL Special Condition, is applicable to the City's MS4 discharges. The CB Special Condition requires that the City develop and maintain a Chesapeake Bay TMDL Action Plan that addresses POCs from the following:

- Transitional Sources
- New Sources
- Nutrient Application at defined City Facilities
- Existing Sources

3.1 Required Reporting Items

Table 7 contains the reporting items required by the MS4 General Permit for MCM 6.

Table 7. City of Fredericksburg Responses for Required MS4 General Permit Annual Reporting Chesapeake Bay TMDL Items.

MS4 General Permit Reporting Requirement	Comment
Part II A 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;	During the reporting period, the City continued to implement the following BMPs/Strategies:
	• VESCP to address Transitional Sources
	• VSMP to address New Sources from new development and prior developed lands.
	• Nutrient Management Plans on 4 City properties, totaling 21.5 acres
	• The City's Street Sweeping Program to address Existing Sources. Calculations are provided in Attachment 16.
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	The City did not acquire any credits during the reporting period to apply towards meeting the required reductions. However, a yet to be quantified number of development projects that regulated under Chapter 38, Article IV of the City Code of Ordinances did acquire credits to comply with stormwater design criteria. The City will apply the pollutant reductions associated with credits purchased as part of a redevelopment projects towards meeting any existing load reduction requirements.

MS4 General Permit Reporting Requirement	Comment
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	See Attachment 17. Using the Mass Load Approach, the annual pollutant load reduction attributed to the City's Street Sweeping Program during the reporting period is equivalent to the following Phase II reduction requirements:
Nitrogen	66% (650 lbs./yr. removed via street sweeping; 978 lbs./yr. annual reductions required by June 30, 2023)
Phosphorus	131% (260 lbs./yr. removed via street sweeping; 199 lbs./yr. annual reductions required by June 30, 2023)
Sediment	114% (77,976 lbs./yr. removed via street sweeping; 67,159 lbs./yr. annual reductions required by June 30, 2023)
d. A list of BMPs that are planned to be implemented during the next reporting period.	The City intends to continue to apply pollutant load reductions resulting from the following BMPs during the next permit cycle:
	• Redevelopment of Prior Developed Lands – The City will document and apply pollutant reductions resulting from the installation of BMPs or nutrient credit purchases associated with VSMP implementation on Prior-Developed Lands
	• Street Sweeping – The City will continue to employ street sweeping practices to reduce the pollutant loads discharged through the City's MS4

4.0 Part II B Local TMDL Special Condition

4.1 Required Reporting Items

The City must comply with the following one (1) applicable local TMDL as required by the MS4 General Permit Local TMDL Special Condition:

- Bacteria TMDL for the Tidal Freshwater Rappahannock River Watershed

Table 8 contains the reporting items required by the MS4 General Permit for MCM 6.

Table 8. City of Fredericksburg Responses for Required MS4 General Permit Annual Reporting for the Local Bacteria TMDL for the Tidal Freshwater Rappahannock River Watershed

MS4 General Permit Reporting Requirement	Comment
Part II B 9 For each reporting period, each annual report shall include a summary of actions conducted to implement each local TMDL action plan	City Ordinance Chapter 14, Article VI requires dog owners to remove feces from public property and private property where consent has not been given for the dog to defecate
	The City maintains 20 pet waste stations on City property throughout the Rappahannock watershed
	The City maintains approximately 4,200 acres of forested riparian buffer in the Rappahannock watershed within and upstream of the City jurisdictional boundaries
	The City continues to maintain a database of a limited number of septic tanks located within the City and continues to coordinate with the Virginia Department of Health to ensure that routine (every 5-years) pump-outs occur
	The City continues to maintain and conduct targeted repair and restoration projects on the City's sanitary sewage collection system as part of its daily operations that are not related to stormwater management

5.0 Attachments

1. Updated IDDE SOP – Dry Weather Screening, Effective 3/13/2019
2. Updated IDDE SOP – Tracking and Response, Effective 3/13/2019
3. Public Education and Outreach Summary for the July 1, 2018 - June 30, 2019 Reporting Period
4. Friends of the Rappahannock Public Education, Outreach and Participation Summary for the July 1, 2018 – June 2019 Reporting Period
5. Public Participation Summary for the July 1, 2018 – June 30, 2019 Reporting Period
6. Dry Weather Screening Results for the July 1, 2018-June 30, 2019 Reporting Period
7. IDDE Summary for the July 1, 2018 – June 30, 2019 Reporting Period
8. Good Housekeeping / Pollution Prevention SOPs
9. Nutrient Management Plan Summary
10. Employee Training Events Held During the July 1, 2018 – June 30, 2019 Reporting Period
11. Evaluation of City Employee Training Progress In Relationship to the MS4 General Permit Schedule
12. City Employee IDDE and SWPPP April 23, 2019 Training Presentation
13. City Employee April 23, 2019 Training Sign-In Sheets
14. DEQ-Certifications Held by City Employees During the July 1, 2018-June 30, 2019 Reporting Period
15. VDACS Pesticide Certifications Held by City Employees During the July 1, 2018 -June 30, 2019 Reporting Period
16. Street Sweeping Pollutant Load Removal Estimates for the July 1, 2018 - June 30, 2019 Reporting Period
17. Chesapeake Bay TMDL Pollutant Load Reduction Progress

Attachment 1. Updated IDDE SOP – Dry Weather Screening, Effective 3/13/2019

STANDARD OPERATING PROCEDURES
Illicit Discharge Detection and Elimination (IDDE)
Dry Weather Screening

Minimum Control Measure 3

Prioritized Schedule of Field Screening Activities

Prioritization of field screening activities will be based on previous Permit years' outfall selection and screening. Outfalls that were not previously selected for screening during the previous year will be identified for screening during the current permit cycle.

For example a total of 50 outfalls were selected during the FY17 Permit year. Initial dry weather screening and follow-up activities were performed on those 50 outfalls. During the FY18 Permit year those 50 outfalls will be ruled out for screening, and another 50 outfalls will be selected. If there are not 50 outfalls available that were not previously screened during the previous Permit year, then consideration will be made to add outfalls that were listed as 'suspect' during previous year's initial screening activities until 50 total outfalls are selected.

Under this proposed schedule it is anticipated that each outfall will be screened at least every other year during the entire Permit cycle.

Number of Screening Activities

Currently there are 95 regulated stormwater outfalls within the City's MS4 boundary. The City is in the process of defining which of these outfalls are owned by the City of Fredericksburg. Under the provisions of the MS4 General Permit, a minimum of 50 outfall inspections are required during each year of the Permit. The City intends to inspect a minimum of 50 outfalls per year over the course of the five year Permit cycle. Inspections may be performed by outside agencies or consultants based available resources and in conformance with the relative SOPs. In addition to screening for illicit discharges and dry weather flow, outfall inspections are used to screen outfalls for repair and maintenance.

Methods to Collect General Information

Weather Data – Prior to performing field screening, the screener will ensure that 3 days (72 hours) have elapsed since the last measurable storm event (≥0.25 in over 24 hours). This information can be obtained from the AccuWeather.com website for Fredericksburg, VA (or zip code 22401). A tabular listing of weather data can be seen by clicking next to the "View" tab on the monthly weather calendar. Print the rainfall data and include it with the outfall screening data when dry weather screening activities are complete. Screening may be allowed in some cases if less than 3 days without a measurable storm event have elapsed at the discretion of the City of Fredericksburg's Senior Environmental Planner.

Outfall Data – Data regarding each outfall will be obtained when construction is completed and prior to inspection of the outfall. Items to be tracked will include the following:

General Data	Information Source
Facility ID	Facility ID based on numbering by HUC
Drainage Area ID	Drainage Area ID that corresponds to Facility ID
Inspection FY	Last FY inspected
HUC	Virginia 6th order HUC where the outfall is located
Tributary	Tributary that the outfall is located in from appropriate local maps
Site Plan #	Site Plan # assigned to approved plans for outfall construction (if applicable)
Site Plan/Subdivision Name	Site Plan/Subdivision name from approved plans for outfall construction (if applicable)
Street Location	Address of outfall location
Relative Location	Location of outfall relative to address above, i.e. (behind, right, left, across street, etc.) to assist field personnel in locating the outfall
Latitude	From GIS mapping system or field GPS information
Longitude	From GIS mapping system of field GPS information
Drainage Area	From design plans
Outfall Owner	Based on location on design plans, in right of way or public easement (City), outside of ROW or public easement (Private)
Outfall Type	Ditch/Pipe
Ditch Material	Grass, Concrete, Asphalt from existing condition or design plan
Ditch Size	From design plan or existing condition
Pipe Material	RCP, CMP, HDPE from design plan or existing condition
Pipe Size	From design plan or existing condition

Outfall Inspection Data – Outfall inspection data will be obtained at the first outfall inspection and will consist of the observations below. In addition, ***if flow is present***, obtain readings for the following from a sample obtained at the outfall:

- Temperature [°F]
- pH
- Specific Conductivity [µS/cm]
- Total Ammonia (NH_3) [mg/L]

Inspection Data	Information Source
Stains	Discoloration of concrete or surrounding riprap at the outfall due to minerals, such as iron or other substances that permanently discolored surrounding material
Color	Related to the characteristic of stains – represents abnormal coloring of the water or of the area surrounding the outfall
Growths	Bacteria or fungi that is growing around the outfall area
Petroleum	Presence of oil in the water or an oily residue on concrete, riprap, or vegetation around the outfall itself or the water channel
Debris	Brush, leaves, fallen trees that have covered, obscured, or blocked the outfall itself or the water channel
Deposits	Any substance or item that has collected at the outfall site that is not classified as sediment, floatables, or debris
Floatables	Floatable trash that has collected at the outfall
Sediment	Sediment that has been deposited in front of or around the outfall opening
Turbid	Opaque, murky water
Sheens	Slightly reflective sheen present on top of water – not due to petroleum
Odors	Abnormal odors of the water itself, not the surrounding area
Vegetation	Dense vegetation that partially or fully obscures or blocks the outfall
Damage	Damage of the outfall due to large amounts of water, and/or design failure

Flow Estimate – If there is flow at the outfall during the inspection, estimate the flow. A garden hose size flow is between 2 and 3 gallons/minute (2-3 gpm). Flow in a pipe or channel can be obtained by obtaining the depth of flow and calculating the flow in the ditch or pipe using Manning's formula for open channel flow.

Illicit Discharge Identification – Outfalls with flow that exhibits stains, growths, petroleum, deposits, turbidity, sheens, odor, color, or;

pH less than 6 or greater than 9 or;
Specific Conductivity greater than 350 µS/cm or;
Ammonia (NH_3) greater than 1.0 mg/L

<u>Illicit Discharge Follow-up</u>

Any illicit discharge that is suspected of being sanitary sewer will immediately be coordinated with the Public Works Department for expeditious resolution. Otherwise, illicit discharges will be tracked through the storm sewer system by observing flow through the system upstream of the outfall to determine if

the source of the discharge can be located. Additional samples can be taken following the first observed discharge to determine if the discharge is continuous or intermittent. If within six months of the beginning of the investigation neither the source nor the same non-stormwater discharge has been identified, the incident will be documented as follows at a minimum:

- The date(s) that the illicit discharge was observed and reported;
- The results of the investigation;
- Any follow-up of the investigation;
- Resolution of the investigation; and
- The date that the investigation was closed.

If the observed discharge is intermittent, a minimum of three separate investigations will be made in an attempt to observe the discharge when it is flowing. If these attempts are unsuccessful the above information will be documented.

If a source of the discharge is located, measures will be taken to stop the discharge consistent with applicable ordinances and legal authorities.

Legal Authorities for Illicit Discharge

Section 59-401 Prohibited acts – Identifies authorized discharges to the storm sewer system and prohibits illicit discharges to the storm sewer system.

Section 59-402 Inspection and monitoring – Allows for inspection for unauthorized discharges.

Section 59-3 Prohibition; penalties – Provides for penalties and enforcement of Nuisances, including illicit discharges.

Typically storm sewer is within a City easement which allows for access and inspection. Make sure to obtain appropriate authorization to access property if access must be obtained from an area other than a City or Public easement.

If the source of an illicit discharge is identified, follow-up actions can be taken according to procedures found in Illicit Discharge Tracking and Response, dated March 13, 2019.

Attachment 2. Updated IDDE SOP – Tracking and Response, Effective 3/13/2019

STANDARD OPERATING PROCEDURES
Illicit Discharge Detection and Elimination (IDDE)
Illicit Discharge Tracking and Response

Minimum Control Measure 3

Background

Dumping materials into storm drains and surface water bodies is not allowed under Virginia Law. In the City of Fredericksburg (the City), unauthorized dumping or the accidental spilling of materials must be reported to the City's Environmental Section and the contamination must be cleaned up. This document provides the City's procedures for responding to observations and reports of illicit discharges.

Definitions

According to 9VAC25-870 Virginia Stormwater Management Program (VSMP) Regulations:

> "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a separate VPDES or state permit (other than the state permit for discharges from the municipal separate storm sewer), discharges resulting from firefighting activities, and discharges identified by and in compliance with 9VAC25-870-400D2c(3).

For the purposes of this document the discharge of materials including dumping, spilling, or the cleaning of equipment (e.g. concrete trucks, hydro-seeders, asphalt equipment, etc.) or the dumping of leftover products such as paint, solvents, cleaners, and other materials will be reported in the following manner.

Reporting an Illicit Discharge Incident

To report an illicit discharge that constitutes an emergency situation or that occurs after regular business hours, or on weekends or holidays, contact emergency response officials by dialing 911. During regular business hours, non-emergency reports of illicit discharge can be made to the Environmental Section by phone (540) 372-1179. Upon receiving a report of an illicit discharge or spill:

1) Obtain the following information:
   - Location/street address of the incident
   - When the incident occurred including time and date
   - Material involved/description of incident
   - Water body or storm drain involved
   - Company involved/description of individuals or vehicles involved
   - Person reporting the incident – Name and contact information

2) Contact the City Fire Marshall and DEQ
   - For emergency situations (911) – Dangerous chemical or petroleum spills
   - Non-emergency situations – City Fire Marshall (540) 372-1059 – spills or other discharge
   - General questions for the City Fire Marshall's Office

- Also report spills or unauthorized discharges to the Virginia Department of Environmental Quality (DEQ) at (703) 583-3864 (Pollution Response for DEQ Northern Regional Office)

3) Site Visit
   - For non-emergency situations, make arrangements to visit the site with the Fire Marshal and the Pollution Response Coordinator for the DEQ Northern Regional Office (if required).

4) Illicit Discharge Incident Tracking
   - Log the incident on the Illicit Discharge Complaint Tracking Form spreadsheet and create a file in the 'Spills' folder on the I:Drive under the appropriate Fiscal Year and title with GPIN, address/location and date
   - Include any pictures and recommended actions and summarize the actions taken

Follow-up Actions

1) Legal Action

   Criminal violations of City of Fredericksburg Ordinances or State Law for discharges to surface waters are the purview of the City of Fredericksburg's Fire Marshall's Office.

   Violations of City of Fredericksburg Ordinances prohibiting illicit discharges are the responsibility of the Environmental Section and the City Attorney's Office.

2) City agencies such as the Police Department and Fire Department that receive reports of illicit discharge or that respond to emergency situations that involve spills or other illicit discharges must report these incidents to the Environmental Section. The City's Municipal Separate Storm Sewer System (MS4) Permit requires the City to track and report illicit discharge incidents in order to meet the requirements of the City's Permit with DEQ.

   Other City agencies can report illicit discharges to the Environmental Section at (540) 372-1179.

Attachment 3. Public Education and Outreach Summary for the July 1, 2018 - June 30, 2019 Reporting Period

Public Education and Outreach Initiative	Summary	High-Priority Stormwater Issue			Strategy Utilized						
		Chesapeake Bay TMDL	Pet Waste Management	Cigarettes Are Litter Too!	Traditional Written Materials	Alternative Materials	Signage	Media Materials	Speaking Engagements	Curriculum Materials	Training Materials
Urban Forest News, Issue 005, June 2019	Green Infrastructure Primer	X			X			X			
Urban Forest News, Issue 005, June 2019	Forest Filters: An Important Part of Green Infrastructure	X			X			X			
"Reduce Runoff" Video on Stormwater Webpage	On-Line Video	X						X			
Friends of the Rappahannock Watershed Outreach and Education to City Students	FOR presentations and field trips to seventeen (17) FPS classes with 1,174 students and 271 adults in attendance								X		
Earth Day on the Rappahannock	Earth Day Event Sponsored by Parks and Recreation with Many Participating Organizations	X	X	X			X	X	X		
Pet Waste Stations and Signage	Twenty (20) Pet Waste Stations Located Across the City to Provide Outreach to Pet Owners		X			X	X				
Cigarette Butt Disposal Stations and Signage	Numerous Cigarette Butt Disposal Stations Located in the City to Encourage Proper Disposal			X		X	X				

Attachment 4. Friends of the Rappahannock Public Education, Outreach and Participation Summary for the July 1, 2018 – June 2019 Reporting Period

EXECUTIVE COMMITTEE

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Rand Sompayrac

EXECUTIVE STAFF

Kathleen Harrigan
Executive Director

Daria Christian
Asst. Director

Mr. John Saunders
Senior Environmental Planner
City of Fredericksburg Planning Services Division
PO Box 7447, Fredericksburg, VA 22404

Dear John,

Friends of the Rappahannock (FOR) is pleased to provide the following scope of work proposal designed to assist the City of Fredericksburg (City) with meeting the outreach, education, and public participation minimum control measures mandated by their National Pollution Discharge Elimination System (NPDES) Stormwater General Permit (MS4 Permit).

FOR will provide the following services to the City for fiscal year 2019 (reporting data provided no later than July 15, 2019). All data will be provided to the City for inclusion in their annual report in format requested by City. Deliverables are subject to change with written request or approval from applicable City representative.

FOR will organize minimum of six river cleanup events in City limits. Events will be listed on FOR website, social media, and applicable community event calendars and the City will be listed as the sponsoring partner. FOR will share all data with City. **(MCM 1, 2). $750.00**
FOR will organize the Wild and Scenic Film Festival, list the City as a sponsor in promotional materials, and provide a table with City MS4 outreach materials. **(MCM 1). $500**
FOR will partner with volunteer groups to label storm drains at newly constructed areas within the City limits. City will provide desired storm drain markers. **(MCM 1, 2). $250**
FOR will document and report all current environmental field trips and lessons provided to City schools. This detailed line-item data will be reported to City. **(MCM 1). $250**
FOR will identify stream crossings and work with volunteers, City Staff, and VDOT to design, print, and install signage. Signs provided by City sign shop. **(MCM 1,2). $250**
FOR will provide the City and relevant partners with printed "City Branded" copies of the Rappahannock River Report Card and provide materials at outreach events. **(MCM 1). $250**
FOR will pilot a boat tour program for City residents using the FOR River Steward Boat at City Dock public launch to discuss stormwater and water quality. **(MCM 1,2) $500**

At the City's request, FOR can also provide mapping, outfall inspection, social media, and graphic design services if desired. We look forward to the opportunity to work with you.

With appreciation,

Bryan Hofmann
Programs Manager

MIDDLE | 3219 fall hill avenue • fredericksburg, virginia • 22401 • 540.373.3448
TIDAL | post office box 1459 • tappahannock, virginia • 22560 • 804.443.3448
info@riverfriends.org • riverfriends.org

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FOR FY 2019 City of Fredericksburg Watershed Outreach and Education to City Students						
Date	School	Grade	Program	# classes	# students	appox.# teachers/chaperones
Oct 2 (1/3)	Elementary	3rd	Cycle, Circles	4	81	12
Oct 9 (2/3)	Elementary	3rd	Cycle, Circles	5	95	15
Oct 16 (3/3)	Elementary	3rd	Cycle, Circles	5	100	15
Nov 13	Group	1st-4th	circles/sbtr,	1	18	10
Nov 27	Head Start	preK	class lesson	2	30	4
Nov 28	Regional Head	preK	class lesson	6	100	4
Nov 29	Trip	preK	field trip	4	65	30
Nov 30	Trip	preK	field trip	4	65	30
Dec 6	VPI	preK	class lesson	4	75	8
Dec 12	VPI	preK	Trees/ water q fie	4	75	25
Feb 27	Middle School	8th	issue definition	1	60	2
March 26	VPI	preK	class lesson	4	75	8
March 27	Regional Head	preK	class lesson	2	30	4
March 29	Regional Head	preK	class lesson	6	100	14
April 2	VPI	preK	water Field Trip	4	75	30
April 3	Regional Head	preK	water Field Trip	4	65	30
April 4	Regional Head	preK	water Field Trip	4	65	30
				Total	1174	271

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Advocacy, Restoration, Education

3219 Fall Hill Ave
Fredericksburg, Virginia 22401
Phone: 540-373-3448 Fax: 540-373-8111

DATE: July 2, 2019
INVOICE # 1

FOR:

Research and reporting on all environmental education activities delivered to City of Fredericksburg Schools

Bill To:
John Saunders
Senior Environmental Planner
City of Fredericksburg Planning Services Division
PO Box 7447, Fredericksburg, VA 22404

DESCRIPTION	AMOUNT
FOR Education Director	$ 150.00
FOR Environmental Education Assistants	$ 100.00
	250.00

Make all checks payable to Friends of the Rappahannock
If you have any questions concerning this invoice, contact Na Bryan Hofmann
Bryan.Hofmann@Riverfriends.org 540-373-3448 ext 112

THANK YOU FOR YOUR BUSINESS!

EXECUTIVE COMMITTEE

Sam Foltz
Chair

Dan Hoffman
Vice Chair

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Berkley Mitchell

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April Peterson

Ben Raterman

Rand Sompayrac

EXECUTIVE STAFF

Daria Christian
Executive Director

Bryan Hofmann
Deputy Director

July 3, 2019

John M. Saunders, P.E., CFM
Senior Environmental Planner
City of Fredericksburg Planning Services Division
715 Princess Anne St
Fredericksburg, VA 22401

Mr. Saunders,

Thank you for your ongoing support of Friends of the Rappahannock's river cleanup program. Throughout the history of our organization, the City of Fredericksburg has provided materials, facilities, trash hauling, and other services that enable FOR staff and local volunteers to remove litter from our waterways and public spaces in a cost-effective manner.

I wanted to report the results from our river cleanup program over the last year. In FY19, we pledged to perform a minimum of 6 volunteer river cleanups in the City between July 1, 2018 and June 30, 2019. I am pleased to report that we exceeded that goal by performing 14 cleanups involving over 400 volunteers. Here is a summary of our results from those cleanups:

# of cleanups	# of volunteers	volunteer-hours	litter removed (lbs)
14	404	1,042	8,490

We also use our cleanup program as a way to bring in new volunteers and perform outreach and education of the broader Fredericksburg community. One example is our annual "Dough Raiser" fundraiser in support of our Big Fall Cleanup, hosted by Benny Vitali's. In 2018, an estimated 900 guests visited Benny's on the day of our Dough Raiser, learning about our organization, river cleanup programs, the City's support for the program, and contributing over $900 in sales proceeds for the cleanup.

Our River Cleanup program outreach reached thousands of people through social media as well.

Instagram: 308 likes, Facebook: 22,633 people reached

Thank you for the continued support of our river cleanup program and we look forward to working with you in FY2020.

With Appreciation,

Adam Lynch
Restoration Coordinator

MIDDLE | 3219 fall hill avenue • fredericksburg, virginia • 22401 • 540.373.3448
TIDAL | post office box 1459 • tappahannock, virginia • 22560 • 804.443.3448
info@riverfriends.org • riverfriends.org

City of Fredericksburg Cleanup with Walker Grant Middle School

City of Fredericksburg Big Fall Cleanup at Old Mill Park

MIDDLE | 3219 fall hill avenue • fredericksburg, virginia • 22401 • 540.373.3448
TIDAL | post office box 1459 • tappahannock, virginia • 22560 • 804.443.3448
info@riverfriends.org • riverfriends.org

City of Fredericksburg Big Fall Cleanup

UMW Rugby Team on-water cleanup in Rappahannock Rive between Old Mill Park, Falmouth Beach, and Motts Run

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Advocacy, Restoration, Education

3219 Fall Hill Ave
Fredericksburg, Virginia 22401
Phone: 540-373-3448 Fax: 540-373-8111

DATE: July 17, 2019
INVOICE # 1
FOR: *River Cleanup Programs in City of Fredericksburg*

Bill To:
John Saunders
Senior Environmental Planner
City of Fredericksburg Planning Services Division
PO Box 7447, Fredericksburg, VA 22404

DESCRIPTION	AMOUNT
River Cleanup Supplies	$ 200.00
River Cleanup Program Management	$ 500.00
River Cleanup Program Outreach	$ 50.00
	750.00

Make all checks payable to Friends of the Rappahannock
If you have any questions concerning this invoice, contact Na Bryan Hofmann
Bryan.Hofmann@Riverfriends.org 540-373-3448 ext 112

THANK YOU FOR YOUR BUSINESS!

Attachment 5. Public Participation Summary for the July 1, 2018 – June 2019 Reporting Period

Public Participation Activity					MS4 Program Plan Metric		Summary	Beneficial to Water Quality Evaluation
MS4 Program Plan BMP	MS4 General Permit Public Involvement Opportunity	Date	Description	MS4 Coordination	Reportable Metric	FY2019 Results		
BMP 2(C)	Disposal or Collection Event	9/22/2018	Household Hazardous Waste Collection	Stafford County (VAR040056)	Amount Collected		The City, in cooperation with Stafford County and the R-Board, held a household hazardous waste collection day at the City Yards	Reduce potential for hazardous waste to be illegally disposed
BMP 2(D)	NA	Daily	Street Sweeping	NA	Tonnage Collected	173.28 T collected	The City maintains a bi-weekly street sweeping schedule	Reduce pollutant load in public streets and highways
Other	Pollution Prevention	Daily	Doggie Bag Stations	NA	No metric defined in MS4 Program Plan	NA	The City maintains 20 Doggie Bag Stations throughout the City	Reduce bacteria contribution from pet wastes at public facilities
Other	Disposal or Collection Event	6/24/2019	Please Butt In Cigarette Butt Pickup Event	NA	No metric defined in MS4 Program Plan	NA	43 volunteers collected cigarette butts in downtown Fredericksburg.	Reduce floatables and trash associated with cigarette butts

Public Participation Activity					MS4 Program Plan Metric		Summary	Beneficial to Water Quality Evaluation
MS4 Program Plan BMP	MS4 General Permit Public Involvement Opportunity	Date	Description	MS4 Coordination	Reportable Metric	FY2019 Results		
Other	Disposal or Collection Event	8/15/2018	Old Mill Park and Kenmore Park	NA	No metric defined in MS4 Program Plan	8,490 lbs. of litter collected	Friends of the Rappahannock hosted 14 City separate clean-up events. These events were attended by 404 people and resulted in 1,042 hours of citizen volunteering	Increase public awareness and reduce litter entry into waters
		9/9/2018	Old Mill Park					
		10/7/2018	11 separate locations					
		10/13/2018	Canal Path					
		11/3/2018	Canal Path					
		11/11/2018	Canal Path					
		3/15/2019	Sunshine Ball Park					
		3/16/2019	Old Mill Park					
		3/23/2019	Rappahannock River					
		3/30/2019	Snowden Wetland					
		5/21/2019	Hazel Run / Walker Grant					
		6/6/2019	England Run City Property					
		6/15/2016	Heritage Trail					
		6/20/2019	Print Innovators					

Public Participation Activity					MS4 Program Plan Metric		Summary	Beneficial to Water Quality Evaluation
MS4 Program Plan BMP	MS4 General Permit Public Involvement Opportunity	Date	Description	MS4 Coordination	Reportable Metric	FY2019 Results		
Other	Educational Event	3/23/2019	Wild and Scenic Film Festival	Stafford County (VAR040056); UMW (VAR040094)	No metric defined in MS4 Program Plan	NA	General public education and awareness opportunity	Raise general environmental awareness
Other	Educational Event	4/27/2019	Earth Day Fred	NA	No metric defined in MS4 Program Plan	NA	Numerous environmental groups participated in Parks and Recreation Earth Day event at Old Mill Park	Increase public awareness of ways to protect water quality
Other	Disposal or Collection Event	11/3/2018	Litter Clean Up	NA	No metric defined in MS4 Program Plan	NA	Fredericksburg Clean and Green sponsored a litter pick up at Old Mill Park	Increase public awareness and remove trash from waters

Attachment 6. Dry Weather Screening Results for the July 1, 2018-June 30, 2019 Reporting Period
(Appendices to Dry Weather Screening are Available Upon Request)

City of Fredericksburg IDD Field Screening Results Fiscal Year 2019 / Permit Year 1

Planning & Community Development
Planning Services Division
715 Princess Anne Street
Fredericksburg, Virginia 22401
Phone (540) 372-1080

Introduction

The City of Fredericksburg (City) is required by the VPDES General Permit for the Discharge of Stormwater from Small MS4s to annually conduct dry weather screening at a minimum of 50 MS4 outfalls[1] under its ownership and/or operation. The City and its contractor, GKY, developed a prioritized list of 58 outfalls from the Rappahannock River watershed as a selection pool for conducting field screening activities. Field screening was completed on 58 selected outfalls following the procedures defined in the City's Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual (SOP). Field screening results for each outfall were categorized into one (1) of four (4) following categories:

- ***Clear***—Outfalls where measurable flow was not present or where measurable flow was present and the field screening results met the pass criteria established in the SOP were designated as ***Clear.***

- ***Suspect***—Outfalls with measurable flow and the field screening results failed to meet the pass criteria established in the SOP were designated as ***Suspect***. *Follow-up actions must be taken in accordance with the SOP for these outfalls.*

- ***Surface Water Conveyance***—Stormwater conveyances previously identified as outfalls but, as a result of field screening activities, did not meet the legal definition of an outfall because they were stormwater conveyances that connected "segments of the same stream or other surface waters" were designated as ***Surface Water Conveyances***. ***Surface Water Conveyances,*** *previously identified as outfalls, should be removed from the City's Dry Weather Screening Database.*

- ***See Comments***—Outfalls in which conditions prevented complete assessment due to the inability to locate or access the outfall, or the outfall was submerged and the location of an upstream node was not identified. Results for these outfalls are provided in the comments section of the individual outfall reports.

Dry Weather Field Screening Results

The results of the field screening activities are summarized in Table 1.

Table 1: Summarized Field Screening Results

Category	Quantity	Percentage
Clear	39	67%
Suspect	7	12%
Surface Water Conveyance	4	7%
See Comments	8	14%
Total	**58**	**100%**

The *Date of Last Field Screening* in the City's *Dry Weather Screening Database* should be updated to match the Screening Date identified in Table 2 (*IDD Field Screening Results*) for the listed outfalls.

- ***Suspect***—Outfalls identified as ***Suspect*** and requiring County follow-up in accordance with the SOP are:
  - swOTFL-02412 – Conductivity > 350 µS/cm
  - swOTFL-02418 – Conductivity > 350 µS/cm

[1] *"Outfall" means, when used in reference to municipal separate storm sewers, a point source at the point where a municipal separate storm sewer discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.* (9VAC25-870-10. Definitions)

- swOTFL-02420 – Conductivity > 350 µS/cm
- swOTFL-02423 – Conductivity > 350 µS/cm
- swOTFL-03205 – Conductivity > 350 µS/cm; pH less than 6.5
- swOTFL-04051 – Conductivity > 350 µS/cm
- swOTFL-04059 – Conductivity > 350 µS/cm

- ***Surface Water Conveyances*** —Outfalls identified as ***Surface Water Conveyances*** that should be removed from the City's Dry-Weather Screening Database are:
  - swOTFL-03241
  - swOTFL-04063
  - swOTFL-04064
  - swOTFL-04077

Individual inspection forms are contained in Attachment A – IDD Field Screening Results.

Table 2: IDDE Field Screening Results

Node ID	Screening Date	Result	Pass/Fail	Follow-Up Required	Comment
swOTFL-02412	**5/17/2019**	**Suspect**	**Fail**	**Yes**	**Suspect due to failed conductivity.**
swOTFL-02418	**5/17/2019**	**Suspect**	**Fail**	**Yes**	**Suspect due to failed conductivity.** Very steady flow was observed at the outfall.
swOTFL-02420	**5/17/2019**	**Suspect**	**Fail**	**Yes**	**Suspect due to failed conductivity.**
swOTFL-02423	**5/17/2019**	**Suspect**	**Fail**	**Yes**	**Suspect due to failed conductivity.** Flow was observed at the next upstream node and appeared to be continuing upstream.
swOTFL-03205	**5/17/2019**	**Suspect**	**Fail**	**Yes**	**Suspect due to failed conductivity and pH.**
swOTFL-04051	**5/17/2019**	**Suspect**	**Fail**	**Yes**	**Suspect due to failed conductivity.**
swOTFL-04059	**5/16/2019**	**Suspect**	**Fail**	**Yes**	**Suspect due to failed conductivity.**
swOTFL-03241	5/16/2019	Surface Water Conveyance	Pass	No	Outfall is the downstream end of a surface water conveyance. No sampling conducted. Recommend removing from inventory.
swOTFL-04063	5/16/2019	Surface Water Conveyance	Pass	No	Outfall is the downstream end of a surface water conveyance. No sampling conducted. Recommend removing from inventory.
swOTFL-04064	5/16/2019	Surface Water Conveyance	Pass	No	Outfall is the downstream end of a surface water conveyance. No sampling conducted. Recommend removing from inventory.
swOTFL-04077	5/16/2019	Surface Water Conveyance	Pass	No	Outfall is the downstream end of a surface water conveyance. No sampling conducted. Recommend removing from inventory.
swOTFL-02403	5/17/2019	See Comments	N/A	No	Could not locate or access outfall. A lot of hillside erosion/sloughing present. It appears outfall may have been buried or submerged. No upstream nodes are mapped.
swOTFL-03219	5/16/2019	See Comments	N/A	No	Outfall is submerged and ponded from downstream creek. No upstream nodes are mapped.

Node ID	Screening Date	Result	Pass/Fail	Follow-Up Required	Comment
swOTFL-03221	5/16/2019	See Comments	N/A	No	Could not locate or access outfall. No upstream nodes are mapped.
swOTFL-04015	5/17/2019	See Comments	N/A	No	Outfall is submerged. No upstream nodes are mapped. Photos include wet pond that may be upstream.
swOTFL-04030	5/17/2019	See Comments	N/A	No	Outfall pipe is likely submerged. Entire bankside in the vicinity of the outfall point was surveyed and no outfall or signs of outfall were found. No upstream nodes are mapped.
swOTFL-04050	5/16/2019	See Comments	N/A	No	Could not locate or access outfall. In its place is Rip Rap berm along entire pond width. Outfall pipe is possibly located underneath of Rip Rap.
swOTFL-04057	5/16/2019	See Comments	N/A	No	Could not locate or access outfall. Took photos of riprap channel 1000 ft. inland, which leads to a downstream wetland that is disconnected from the stream. Recommend reevaluating outfall location.
swOTFL-04060	5/16/2019	See Comments	N/A	No	Outfall location appears to be a natural channel. Field team was not able to locate a definitive channel leading to the downstream creek. There is a plastic pipe located on the opposite side of the creek that appears to also outfall to the stream. Consider including this outfall in the inventory, if not already included.
swOTFL-02404	5/17/2019	Clear	Pass	No	The bottom of the outfall pipe is rusted out.
swOTFL-02410	5/17/2019	Clear	Pass	No	Could not locate or access outfall. Upstream node is dry.
swOTFL-02413	5/17/2019	Clear	Pass	No	Could not locate or access outfall. Upstream node is dry.
swOTFL-02414	5/17/2019	Clear	Pass	No	None
swOTFL-02426	5/16/2019	Clear	Pass	No	None
swOTFL-02803	5/16/2019	Clear	Pass	No	None
swOTFL-03203	5/17/2019	Clear	Pass	No	Outfall pipe is cracked down the middle and it appears there may be water bypassing underneath but cannot see under the pipe to confirm.
swOTFL-03220	5/16/2019	Clear	Pass	No	Outfall is wet but not flowing.
swOTFL-03222	5/16/2019	Clear	Pass	No	None
swOTFL-03223	5/16/2019	Clear	Pass	No	Outfall is wet but not flowing.
swOTFL-03243	5/16/2019	Clear	Pass	No	None
swOTFL-03244	5/16/2019	Clear	Pass	No	None
swOTFL-03245	5/16/2019	Clear	Pass	No	None
swOTFL-04019	5/17/2019	Clear	Pass	No	Outfall is ponded, upstream node dry. Consider revising outfall address. Current address takes you across the street, but there is now a park

Node ID	Screening Date	Result	Pass/Fail	Follow-Up Required	Comment
					with a parking lot located directly across Fall Hill Ave from Wicklow Dr.
swOTFL-04020	5/17/2019	Clear	Pass	No	Consider revising outfall address. Consider, instead, using the address across Fall Hill Ave. from the Virginia Outdoor Center - 3214 Fall Hill Ave.
swOTFL-04021	5/17/2019	Clear	Pass	No	None
swOTFL-04022	5/16/2019	Clear	Pass	No	None
swOTFL-04023	5/16/2019	Clear	Pass	No	None
swOTFL-04024	5/16/2019	Clear	Pass	No	Outfall is wet but not flowing. Water is ponded along upstream segments of channel but does not reach the downstream receiving water.
swOTFL-04025	5/17/2019	Clear	Pass	No	None
swOTFL-04028	5/17/2019	Clear	Pass	No	Outfall channel appears to be on the opposite side of creek than mapped location; and across from outfall point swOTFL-04029, not further downstream as mapped. At the mapped location for swOTFL-04028 is under an overpass bridge which is completed lined with rip rap shore armoring on either side of the creek.
swOTFL-04029	5/17/2019	Clear	Pass	No	None
swOTFL-04031	5/16/2019	Clear	Pass	No	None
swOTFL-04032	5/16/2019	Clear	Pass	No	None
swOTFL-04034	5/16/2019	Clear	Pass	No	None
swOTFL-04040	5/16/2019	Clear	Pass	No	None
swOTFL-04061	5/16/2019	Clear	Pass	No	Outfall channel is unclear. There is a concrete pipe located on the opposite side of the creek in the adjacent yard. Recommend reevaluating outfall location.
swOTFL-04065	5/16/2019	Clear	Pass	No	None
swOTFL-04066	5/16/2019	Clear	Pass	No	None
swOTFL-04067	5/16/2019	Clear	Pass	No	Field team noted another natural channel approximately 1000m down the bank from mapped outfall. Photos of other natural channel are included in the report for reference only.
swOTFL-04068	5/16/2019	Clear	Pass	No	None
swOTFL-04069	5/17/2019	Clear	Pass	No	None
swOTFL-04071	5/17/2019	Clear	Pass	No	None
swOTFL-04072	5/17/2019	Clear	Pass	No	None
swOTFL-04073	5/17/2019	Clear	Pass	No	Overgrown vegetation was found at outfall location. Photos show gray (possibly metal) pipe through vines.

Node ID	Screening Date	Result	Pass/Fail	Follow-Up Required	Comment
swOTFL-04074	5/17/2019	Clear	Pass	No	Outfall is a Rip Rap channel downstream of a roadside ditch.
swOTFL-04075	5/17/2019	Clear	Pass	No	Overgrown vegetation was found over top of the downstream concrete channel segment of the outfall.
swOTFL-04076	5/17/2019	Clear	Pass	No	None
swOTFL-04078	5/17/2019	Clear	Pass	No	None

* Conductivity exceeded the threshold of 350 µs/cm as defined in the City's IDDE SOP; however, level was below the industrial discharge limit of 2,000 µs/cm.

Should you have any questions regarding the results presented in this report, please feel free to contact us at (703) 870-7000 or by email at dfritz@gky.com.

Sincerely,

GKY & Associates, Inc.

Attachment(s):
Attachment A – IDD Field Screening Results

Attachment B – Rainfall Data from Alert Eagle

Attachment 7. IDDE Summary for the July 1, 2018 – June 30, 2019 Reporting Period

Illicit Discharge	Source	Dates		Method of Discovery			Resolution	Follow-Up Activities	Investigation Closed (Date)
		Observed	Reported	Dry Weather Screening	Public Reporting	Other			
Conductivity Outside of Allowable Range	swOTFL-02412	5/17/2019	N/A	X			Authorized groundwater discharge	Follow-up was completed after the reporting period	8/13/2019
Conductivity Outside of Allowable Range	swOTFL-02418	5/17/2019	N/A	X			Authorized groundwater discharge	Follow-up was completed after the reporting period	8/13/2019
Conductivity Outside of Allowable Range	swOTFL-02420	5/17/2019	N/A	X			Authorized groundwater discharge	Follow-up was completed after the reporting period	8/13/2019
Conductivity Outside of Allowable Range	swOTFL-02423	5/17/2019	N/A	X			Authorized groundwater discharge	Follow-up was completed after the reporting period	9/18/2019

Illicit Discharge	Source	Dates		Method of Discovery			Resolution	Follow-Up Activities	Investigation Closed (Date)
		Observed	Reported	Dry Weather Screening	Public Reporting	Other			
Conductivity and pH Outside of Allowable Range	swOTFL-03205	5/17/2019	N/A	X			Authorized groundwater discharge	Follow-up was completed after the reporting period	9/18/2019
Conductivity Outside of Allowable Range	swOTFL-04051	5/17/2019	N/A	X			Authorized groundwater discharge	Follow-up was completed after the reporting period	8/13/2019
Conductivity Outside of Allowable Range	swOTFL-04059	5/16/2019	N/A	X			Authorized groundwater discharge	Follow-up was completed after the reporting period	8/13/2019

Attachment 8. Pollution Prevention / Good Housekeeping SOPs

Good Housekeeping Procedure	Publication Date	Updated or Modified During Reporting Period?
General Good Housekeeping	9/17/2015	No
Salt Storage and Handling	9/17/2015	No
Liquid Management	9/17/2015	No
Vehicle Fueling	9/17/2015	No
Vehicle and Equipment Storage	9/17/2015	No
Parks and Recreation Vehicle and Equipment Maintenance	9/17/2015	No
Public Works Vehicle and Equipment Maintenance	9/17/2015	No
Solid Waste	9/17/2015	No
Fertilizer Storage and Application	9/17/2015	No
Pesticide Storage and Application	9/17/2015	No
Grass Mowing	9/17/2015	No
Street Sweeping	9/17/2015	No
Stormwater Drainage System Inspection and Maintenance	9/18/2015	No
Stormwater BMP Inspection and Maintenance	9/18/2015	No

Attachment 9: Nutrient Management Plan Summary

NMP	Location		Total Acreage	Expiration Date	Developed / Renewed During Reporting Period?
Dixon Park	Latitude	38.286057	15.1	7/1/2018	No
	Longitude	-77.455692			
James Monroe HS	Latitude	38.311201	3.1	8/1/2021	No
	Longitude	-77.475121			
Maury Stadium	Latitude	38.299929	1.3	8/1/2021	No
	Longitude	-77.465919			
Walker-Grant MS	Latitude	38.274624	2.1	8/1/2021	No
	Longitude	-77.488744			

Attachment 10. Employee Training Events Held During the July 1, 2018 – June 30, 2019 Reporting Period

Training Event	Objective	Date	Number of Employees
MS4 Employee Training for Parks and Recreation	IDDE & SWPPP Awareness	4/23/2019	19
MS4 Employee Training for Public Works	IDDE & SWPPP Awareness	4/23/2019	56
City Employee Volunteer Canal Clean Up	Stormwater Pollution Awareness	3/20/2019	20

Attachment 11. Evaluation of City Employee Training Progress In Relationship to the MS4 General Permit Schedule

Training Requirement (MS4 General Permit Part I E 6 m)	MS4 General Permit Reporting Period Training				
	7/1/18 - 6/30/19	7/1/19 - 6/30/20	7/1/20 - 6/30/21	7/1/21 - 6/30/22	7/1/22 - 6/30/23
(1) Illicit Discharge Recognition and Reporting	C				
(2) Road, Street and Parking Lot Maintenance		R			
(3) Maintenance, Public Works or Recreational Good Housekeeping		R			
(4) Pesticide Certification	C	M			
(5) Virginia Erosion and Sediment Control Law Certifications	C	M			
(6) Virginia Stormwater Management Act Certifications	C	M			
(7) Emergency Responder Spill Response	C	M			

C = Complete; M = Maintain; R = Required

Attachment 12. City Employee IDDE and SWPPP April 23, 2019 Training Presentation

City of Fredericksburg
MS4 Employee Training

April 23, 2019

JOHN SAUNDERS, P.E., CFM
SENIOR ENVIRONMENTAL PLANNER

Sharing Our Past, Embracing the Future

Introduction

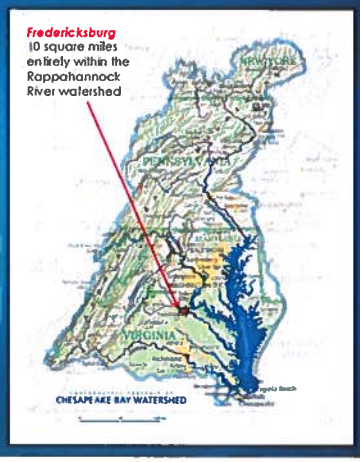
- What is an MS4? Why Am I Here Today?
- Chesapeake Bay Facts
- VIDEO – Municipal Stormwater Pollution Prevention
- VIDEO – Illicit Discharge Detection & Elimination
- IDDE Reporting
- Stormwater Pollution Prevention Plans

What is an MS4?

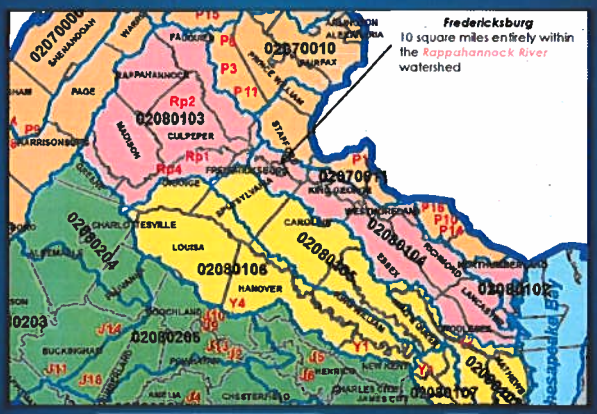
- MS4 = Municipal Separate Storm Sewer System
- City owned/maintained drainage infrastructure that drains public stormwater runoff to natural streams and rivers
  - Ditches
  - Culverts
  - Storm sewer pipes
  - Inlets/catch basins
  - Outfalls

Chesapeake Bay Facts

- Bay watershed
  - Largest estuary in North America
  - 64,000 square miles
  - 6 states: VA, MD, DE, PA, NY, WV
  - 150 major rivers and streams
  - 100,000 tributaries
  - Susquehanna, Potomac, **Rappahannock**, York, and James Rivers are the **5 largest** in the watershed
  - 18 million inhabitants



Rappahannock River Watershed



Why Am I Here?

- You've been identified as having a critical role in providing stormwater pollution prevention and response
- Because the City's MS4 Permit says so!!!
  - Field personnel
  - Road, Street, Parking Lot maintenance personnel
  - Employees working around Maintenance, Public Works, or Recreational Facilities
  - Employees who apply pesticides and herbicides

...and to help *Prevent* this...

- https://www.youtube.com/watch?v=mYUEI7xrGVI
- https://www.youtube.com/watch?v=FGtpv_Tpzc0

Municipal Stormwater Pollution Prevention Video

Illicit Discharge Detection & Elimination Video

IDDE Quiz

- Pure stormwater runoff...
  - a. is cloudy.
  - b. is foamy.
  - c. is clear and bright.
  - d. has a rainbow sheen.
  - e. all of the above

IDDE Quiz

- Pure stormwater runoff...
  - a. is cloudy.
  - b. is foamy.
  - c. is clear and bright.
  - d. has a rainbow sheen.
  - e. all of the above

IDDE Quiz

- What information about a suspected illicit discharge would <u>not</u> be useful to collect and report?
  - a. weather conditions
  - b. date and time
  - c. location
  - d. description of the discharge

IDDE Quiz

- What information about a suspected illicit discharge would not be useful to collect and report?
  - a. weather conditions
  - b. date and time
  - c. location
  - d. description of the discharge

IDDE Quiz

- How long after the last significant rainfall should flow in a stormwater outfall make you suspicious?
  - a. 1 hour
  - b. 8 hours
  - c. 1 day
  - d. 2-3 days

IDDE Quiz

- How long after the last significant rainfall should flow in a stormwater outfall make you suspicious?
  - a. 1 hour
  - b. 8 hours
  - c. 1 day
  - d. 2-3 days

IDDE Quiz

- Municipal separate storm sewer systems are designed to perform only the following function:
  - a. clean up stormwater runoff
  - b. control and divert stormwater runoff
  - c. treat stormwater runoff
  - d. treat sanitary wastes

IDDE Quiz

- Municipal separate storm sewer systems are designed to perform only the following function:
  - a. clean up stormwater runoff
  - b. control and divert stormwater runoff
  - c. treat stormwater runoff
  - d. treat sanitary wastes

IDDE Quiz

- Which of the following materials are common illicit discharges?
  - a. pet wastes
  - b. grass clippings
  - c. paint wastes
  - d. trash
  - e. all of the above

IDDE Quiz

- Which of the following materials are common illicit discharges?
  - a. pet wastes
  - b. grass clippings
  - c. paint wastes
  - d. trash
  - e. all of the above

IDDE Quiz

- Which of the following materials should never be disposed in a non-leak tight outdoor dumpster or trash can?
  - a. paper and plastic
  - b. any liquids
  - c. floatables
  - d. broken concrete

IDDE Quiz

- Which of the following materials should never be disposed in a non-leak tight outdoor dumpster or trash can?
  - a. paper and plastic
  - b. any liquids
  - c. floatables
  - d. broken concrete

IDDE Quiz

- Which of the following would be suspicious if observed at a stormwater outfall?
  - a. vapors or fumes
  - b. dead or dying vegetation
  - c. discolored water
  - d. all of the above

IDDE Quiz

- Which of the following would be suspicious if observed at a stormwater outfall?
  - a. vapors or fumes
  - b. dead or dying vegetation
  - c. discolored water
  - d. all of the above

IDDE Quiz

- What does a 'rainbow sheen' on stormwater indicate?
  - a. a recent rain storm
  - b. waste paint
  - c. gasoline
  - d. sewage contamination

IDDE Quiz

- What does a 'rainbow sheen' on stormwater indicate?
  - a. a recent rain storm
  - b. waste paint
  - c. gasoline
  - d. sewage contamination

IDDE Quiz

- Which of the following types of operations can be a source of illicit discharges?
  - a. private homes
  - b. industrial facilities
  - c. restaurants
  - d. municipal facilities
  - e. all of the above

IDDE Quiz

- Which of the following types of operations can be a source of illicit discharges?
  - a. private homes
  - b. industrial facilities
  - c. restaurants
  - d. municipal facilities
  - e. all of the above

IDDE Quiz

- A stained storm drain inlet is probably a sign of…
  - a. recent MS4 maintenance work.
  - b. a marking to indicate it needs repair.
  - c. past illicit discharges.
  - d. dye testing.

IDDE Quiz

- A stained storm drain inlet is probably a sign of…
  - a. recent MS4 maintenance work.
  - b. a marking to indicate it needs repair.
  - c. past illicit discharges.
  - d. dye testing.

IDDE Quiz

- Everything that enters an MS4 eventually winds up in…
  - a. a sanitary sewer treatment works.
  - b. an underground aquifer.
  - c. a drinking water treatment plant.
  - d. a stream, river, lake or bay.

IDDE Quiz

- Everything that enters an MS4 eventually winds up in…
  - a. a sanitary sewer treatment works.
  - b. an underground aquifer.
  - c. a drinking water treatment plant.
  - d. a stream, river, lake or bay.

IDDE Quiz

- Which of the following are allowed in municipal separate storm systems (MS4s)?
  - a. rainwater runoff
  - b. sanitary wastes from hospitals and long-term care facilities
  - c. milk
  - d. floor mat rinse water

IDDE Quiz

- Which of the following are allowed in municipal separate storm systems (MS4s)?
  - a. rainwater runoff
  - b. sanitary wastes from hospitals and long-term care facilities
  - c. milk
  - d. floor mat rinse water

IDDE Quiz

- What is the most likely illicit discharge from a construction site?
  - a. silt and sediments
  - b. waste oil
  - c. floatables
  - d. pet wastes
  - e. waste pesticides

IDDE Quiz

- What is the most likely illicit discharge from a construction site?
  - a. silt and sediments
  - b. waste oil
  - c. floatables
  - d. pet wastes
  - e. waste pesticides

IDDE Quiz

- A suspected illicit discharge from which of the following types of operations would not need to be reported?
  - a. apartment complex
  - b. retail shopping center
  - c. service station
  - d. public park
  - e. report all of them

IDDE Quiz

- A suspected illicit discharge from which of the following types of operations would not need to be reported?
  - a. apartment complex
  - b. retail shopping center
  - c. service station
  - d. public park
  - e. report all of them

IDDE Quiz

- What could cause a strong odor at a stormwater outfall?
  - a. sanitary sewage
  - b. garbage
  - c. gasoline
  - d. any of the above

IDDE Quiz

- What could cause a strong odor at a stormwater outfall?
  - a. sanitary sewage
  - b. garbage
  - c. gasoline
  - d. any of the above

IDDE Reporting: Non-emergency

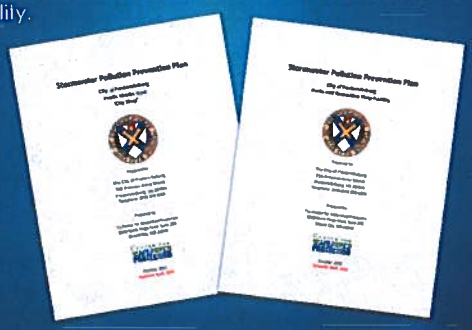
- For non-emergency reports contact the City's Environmental Section by phone (540) 372-1179.
- Obtain the following information:
  - Location/street address of the incident
  - Time and Date
  - Material involved/description of the incident
  - Water body or storm drain involved
  - Company involved/description of individuals or vehicles involved
  - Person reporting the incident – Name and contact info.

IDDE Reporting: Emergency

- For emergency situations involving dangerous chemicals or petroleum spills contact the City's Fire Dept. (911)
- Obtain the following information:
  - Location/street address of the incident
  - Time and Date
  - Material involved/description of the incident
  - Water body or storm drain involved
  - Company involved/description of individuals or vehicles involved
  - Person reporting the incident – Name and contact info.

Stormwater Pollution Prevention Plans (SWPPP)

- All Employees assigned to City Shop and Parks & Rec. Maintenance Facilities must read the SWPPP for that facility.



Spill Kits

- Become familiar with spill kit locations and how to use and dispose of materials

Conclusion

- What is an MS4? Why Am I Here Today?
- Chesapeake Bay Facts
- VIDEO – Municipal Stormwater Pollution Prevention
- VIDEO – Illicit Discharge Detection & Elimination
- IDDE Reporting
- Stormwater Pollution Prevention Plans

MS4 Program Contacts

- Environmental Section (540) 372-1179
- John Saunders; jmsaunders@fredericksburgva.gov
- Kevin Uti; kwutt@fredericksburgva.gov

Attachment 13. City Illicit Discharge and SWPPP Training April 23, 2019 Sign-In Sheets

PARKS & RECREATION

DEPT	EMP#	NAME	TITLE	Attended MS4 Training Event 4/23/2019 (Signature)	READ SWPPP (Initial & Date)
195	5071	BARNES, THOMAS W.	PARK MAINTENANCE WORKER II		4/23/19
195	2957	KONGQUEE, JOHN F.	LEAD LABORER		4/23/19
195	3520	MYERS, RANDOLPH P.	LEAD LABORER		
195	4631	NAVAS, CHRISTIAN E. CEN	PARK MAINTENANCE WORKER II		
195	3574	PRUITT, DEVIN H.	PARK MAINTENANCE WORKER II		
195	3614	SANDERS, DENISE A.	~~PARK MAINTENANCE~~ WORKER II		
195	3120	SAUNDERS, ROBIN L.	LEAD LABORER		
195	4461	SIMMONS, DAVID A.	SUPERINTENDENT OF PARKS & MAINT		4-23-19
195	3108	SNELLINGS, STEPHANIE R.	PARK MAINTENANCE WORKER II		
195	4351	WALKER, SAMMY J.	SPECIAL EVENTS COORDINATOR		4-23-19
196	5249	GALLIK, MATTHEW D.			
196	4362	HERNANDEZ, MARIO J.			4/23/19
196	5294	KROFAH, LAWRENCE A.S.			
196	4962	MINOR, GAVIN A			
196	3092	RANDALL, SIDNEY R.			
196	516	WILLIAMS, MARCELLUS E.			
197	4835	BALDA, ERIN L.	PARK MAINTENANCE WORKER I		
197	4878	CHANG, MICHAEL S.			
197	4941	CHESHIRE, CHRISTOPHER R.			
197	3676	CRABTREE, MASON A.	MARINA ATTENDANT III		
197	3577	CRABTREE, NATHANIEL C.	MARINA ATTENDANT III		4/23
197	3867	FINN, DANIEL JAMES			
197	5214	GALLAHAN, GEORGE E.			4/23
197	5215	HALL, PHOENIX C.			4/23
197	5070	JOHNSON, CLARENCE W.			
197	5221	JONES, JARED M.			
197	4747	KATO, ALLEN J.			
197	5207	MACKINNON, DAVID J.			23/04/2019
197	5356	MCHALE, LUKE B.	PARK MAINTENANCE WORKER I		
197	5206	O'ROARK, MASON M.			
197	3394	PRUITT, JAMEY L.	PARK MAINTENANCE WORKER I		
197	5148	SAUNDERS, TYLER W.		Tyler Saunders	4/23/19
197	5088	SCOTT, HARLEY A.			
197	5089	SHREVE, TUNDE D.			
197	3388	THOMPSON, BRANDI A.			
197	5091	TORREY, MICAULY J.			
197	5161	WHITE, FORRESTER F.			
197	4798	WHITE, VINCENT E.			4/23/19
197	5087	WHITFIELD, JAMES E.			04-23-09
197	5073	WRIGHT, TREY A.			
		Bennie Taylor			4-23-19

Marcus Wright

Marcus Wright 4/23/19

PUBLIC WORKS

DEPT	EMP#	NAME	TITLE	Attended MS4 Training Event 4/23/2019 (Signature)	READ SWPPP (Initial & Date)
230	3631	ABDULLAH, MUHAMMAD A.	WATER DISTRIBUTION TECHNICIAN		4/23/19
140	1160	ACORS, LINWOOD B.	AUTOMOTIVE MECHANIC		4/23/19
140	4438	ADAMS, LOUIS F. JR.	LABORER I		4-23-19
145	4855	ALEXANDER, BILLY W. JR	CREW LEADER		4/23/19
135	3826	ALSOP, DOMINICK D.	LABORER II		DDA 4/23/19
130	5051	ANDERSON, MICHAEL F.	LEAD LABORER		MFA 4/23/19
130	5151	BANKS, CARL A. JR.	CREW LEADER		CAB 4/23/19
170	5084	BATES, MICHAEL E. SR.	LABORER I		4-23-19
140	1865	BAYLOR, JAMES E. JR.	LEAD MECHANIC		
140	5027	BELMAN, ALEXANDER M.	AUTOMOTIVE MECHANIC		4/23/19
175	4358	BROWN, RUSSELL M. II	FIELD SUPERVISOR		RMB 4/23/19
230	2961	BRUEMMER, JASON F.	CREW LEADER		4/23/19
150	5227	COLEMAN, MALCOLM E.	LABORER II		4/23/19
170	4320	COLES, JAMES T.	LEAD LABORER		DDA-4-23-19
135	4009	COLES, JESSE W.	LABORER II		4-23-19
140	263	CONSTIEN, DANIEL F.	AUTOMOTIVE SUPERVISOR		DFC 4-23-19
140	2198	COOK, JACQUELINE H.	ADMIN SUPPORT SPECIALIST III		
145	4535	COPELAND, TRAVIS L.	FIELD SUPERVISOR		4-23-19
140	3777	DAVIDSON, ORLANDO D.	WELDER		4-23-19
160	4661	DAVIS, JOSEPH E. II	LABORER II		
140	2965	DOBBINS, MAUREEN E.	EQUIPMENT OPERATOR II		4-23-19
150	2418	FLEMING, JOEANN L.	LABORER II		4-23-19
145	5330	FLEMING, TREVOR L.	LABORER II		
230	1035	FORTNEY, CRAIG M.	WATER DISTRIBUTION TECHNICIAN		4-23-19
135	1109	GARNETT, TERRY L.	CREW LEADER		4-23-19
145	3745	HAYDEN, TAMMIE A.	EQUIPMENT OPERATOR II		
140	3187	HEFLIN, NENA A.	PROCUREMENT SPECIALIST		
145	5079	HERBERT, TYLOR D.	LABORER II		
130	5065	HULL, MICHAEL L.	EQUIPMENT OPERATOR II		
135	3055	JACKSON, RODNEY D. SR.	LABORER I		4-23-19
145	4593	JOHNSON, BRANDON L.	LABORER II		4-23-19
140	4436	JOHNSON, GARY L.	SUPERINTENDENT OF PUBLIC WORKS		4-23-19
153	4592	JOHNSON, KENNETH M.	EQUIPMENT OPERATOR II		4/23/19
145	296	JOHNSTON, ROBERT E. JR.	EQUIPMENT OPERATOR II		4/23/19
160	4681	KINNETT, MICHAEL C.	LEAD LABORER		
170	2475	LEE, DANIEL E.	UTILITY MAINTENANCE MECHANIC		4/23/19
130	2590	LEE, DOUGLAS S.	LABORER I		
140	4256	LOHR, GREGORY M.	AUTOMOTIVE MECHANIC		4-23-19
150	2749	LOPEZ-PALMA, RAFAEL	LABORER I		
130	4683	MARTIN, CHARLES R.	LABORER II		CRM 4-23-19
230	4008	MARTIN, RANDY D.	LEAD LABORER		
130	5225	MCBROOM, MICHAEL L.	LABORER II		4/23/19
130	1129	MCMANAMA, ADAM Y.	DEPUTY SUPERINTENDENT OF PUB WORKS		4/23/19
175	4437	MOONEY, JORDAN T.	TRAFFIC SIGNAL TECHNICIAN II		4/23/19
145	1949	MORRIS, FRANKLYN L.	LEAD LABORER		4-23-19
160	1386	NAVE, JAMES W. JR.	FIELD SUPERVISOR		4/23/19
230	2514	OESTERHELD, JASON L.	CREW LEADER		4-23-19
130	4550	OGLE, JASON L.	FIELD SUPERVISOR		4-23-19
145	2556	PALMA, WALTER A.	LEAD LABORER		4-23-19
175	4964	RAWLINGS, DYLAN E	LEAD LABORER		4-23-19
130	5152	REED, JOSEPH S.	LEAD LABORER		
150	1950	SAUNDERS, BRUCE A.	LEAD LABORER		
150	4433	SAUNDERS, DAVID W.	EQUIPMENT OPERATOR II		
153	2138	SAUNDERS, JOHN W.	LEAD LABORER		4-23-19
170	3197	SAUNDERS, KEVIN R.	EQUIPMENT OPERATOR II		4-23-19
150	2061	SAUNDERS, ROBERT C. JR.	LEAD LABORER		4-23-19
130	2309	SELLERS, CHARLES D.	CREW LEADER		
160	4122	SHEPHERD, TERRANCE L.	CREW LEADER		4-23-19
140	5184	SMITH, MATTHEW C.	UTILITY GRAPHICS COORDINATOR		4-23-19
175	3216	STONE, GARY C.	TRAFFIC SIGNAL TECHNICIAN I		
130	1799	SYDNOR, WILLIAM M.	LEAD LABORER		
175	4134	THARP, JUSTIN A.	TRAFFIC MAINTENANCE WORKER II		
175	5361	THOMAS, KEITH R.	DEPUTY SUPERINTENDENT OF TRAFFIC		4-23-19
145	4849	VARISCO, DANIEL V.	LABORER II		
145	5150	WALKER, DARREN B.	LABORER II		4-23-19
150	295	WASHINGTON, PAUL L.	LABORER II		4-23-19
145	3074	WEBSTER, ALPHONSO SR.	EQUIPMENT OPERATOR II		4-23-19
230	3071	WEBSTER, EARL J.	WATER DISTRIBUTION TECHNICIAN		4-23-19
160	5068	WOOD, DAMON E.	UTILITY LOCATOR		
145	303	ZELLMER, MICHAEL J.	LABORER I		
		Lionel Coles	Laborer II		4-23-19
		MIKHAEL IRBY			4/23/19
		Kyle A Meadows	Laborer II		4/23/19
		STANLEY STVANA	Laborer II		

Christopher Heavy Labor II 4/23/19

Rafael Palma Labor 4/23/19

Attachment 14. DEQ-Certifications Held by City Employees During the July 1, 2018-June 30, 2019 Reporting Period

Last Name	First Name	Certification Type	Certification Number	Expiration Date	Department
Amin	Bassam	ESC Combined Administrator	196	11/30/2021	DPW
Bahre	Tim	ESC Inspector	2667	11/30/2021	DCPB
Beyer	Diane	ESC Inspector	5715	11/30/2021	DPW
Johnson	Paula	ESC Inspector	3753	11/30/2019	DCPB
Saunders*	John	Dual Combined Administrator	DCA0146	11/14/2020	DCPB
Utt*	Kevin	Dual Combined Administrator	DCA0375	4/27/2021	DCPB

*Left City Employment After Reporting Period Ended

Attachment 15. VDACS Pesticide Certifications Held by City Employees During the July 1, 2018 -June 30, 2019 Reporting Period

Last Name	First Name	Certification Type	Certification Number	Expiration Date
Banks	Carl	Certified Pesticide Applicator	115367	6/30/2021
Barnes	Thomas	Certified Pesticide Applicator	142859	6/30/2021
King	David	Certified Pesticide Applicator	37126	6/30/2020
King	George	Certified Pesticide Applicator	107872	6/30/2020
McManama	Adam	Certified Pesticide Applicator	142871	6/30/2020
Myers	Randolph	Certified Pesticide Applicator	142872	6/30/2020
Pruitt	Devin	Certified Pesticide Applicator	142874	6/30/2020
Simmons	David	Certified Pesticide Applicator	142877	6/30/2020
Young	Joseph	Certified Pesticide Applicator	142887	6/30/2020
Alexander	Billy	Registered Pesticide Technician	142856	6/30/2021
Alsop	Dominick	Registered Pesticide Technician	142857	6/30/2021
Balda	Erin	Registered Pesticide Technician	142858	6/30/2021
Cobb	Adam	Registered Pesticide Technician	142934	6/30/2021
Copeland	Travis	Registered Pesticide Technician	142863	6/30/2021
Kinnett	Michael	Registered Pesticide Technician	113760	6/30/2021
Kong Quee	John	Registered Pesticide Technician	142869	6/30/2021
Martin	Peter	Registered Pesticide Technician	142870	6/30/2021
Petitt	Robert	Registered Pesticide Technician	142873	6/30/2021
Skinner	William	Registered Pesticide Technician	142878	6/30/2020
Snellings	Stephanie	Registered Pesticide Technician	142880	6/30/2021
Thompson	Brandy	Registered Pesticide Technician	142881	6/30/2020
Utt*	Kevin	Registered Pesticide Technician	142882	6/30/2021
Walker	Sammy	Registered Pesticide Technician	142883	6/30/2021
Ward	Michael	Registered Pesticide Technician	142884	6/30/2021

Applicators and technicians may hold more than one certification/registration with different expiration dates

* Left City Employment After Reporting Period Ended

Attachment 16. Street Sweeping Pollutant Load Removal Estimates for the July 1, 2018 - June 30, 2019 Reporting Period

Reporting Period	Total Sweepings Collected (lbs.)	Dry Weight	Dry Weight (lbs.)	Nitrogen, lbs.		Phosphorus, lbs.		Sediment, lbs.	
				Lb. / Lb. Dry Weight	Total	Lb. / Lb. Dry Weight	Total	Lb. / Lb. Dry Weight	Total
July 1, 2018 – June 30, 2019	346,560	75%	259,920	0.0025	650	0.001	260	0.3	77,976

Attachment 17. Chesapeake Bay TMDL Pollutant Load Reduction Progress

Pollutant of Concern	Reductions Credited to 2019 Street Sweeping (lbs)	Phase I Reductions Required by June 30, 2018		Phase II Reductions Required by June 30, 2023		Remaining Estimated Reductions Required by ~June 30, 2028	
		Required Reductions (lbs)	Percentage Met Via 2019 Street Sweeping	Required Reductions (lbs)	Percentage Met Via 2019 Street Sweeping	Required Reductions (lbs)	Percentage Met Via 2019 Street Sweeping
Nitrogen	650	122	533%	978	66%	2446	27%
Phosphorus	260	25	1040%	199	131%	497	52%
Sediment	77976	8595	907%	68159	114%	171897	45%