

**USGS National Center  
Reston, Virginia**

**Municipal Separate Storm  
Sewer System (MS4)  
General Permit VAR 040126**

**Reporting Year  
July 1, 2016 through June 30, 2017**

**Annual Report Number 4**

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## BACKGROUND INFORMATION

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Facility Name/Address

U.S. Geological Survey (USGS)  
12201 Sunrise Valley Drive  
Reston, Virginia 20192

Facility Permit Number: VAR040126

Annual Report Permit Year 4

- July 1, 2016 through June 30, 2017
- Report Year 4 of 5-year permit, expiring June 30, 2018

Modifications to any operator's department's roles and responsibilities

- There have been no modifications during this reporting period

Number of new MS4 outfalls and associated acreage by HUC (Hydrologic Unit Code) added during this permit year

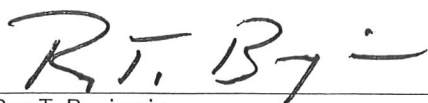
- There have been no new MS4<sup>1</sup> outfalls during this reporting period

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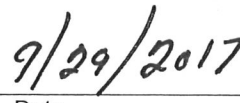
## CERTIFICATION

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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.



Ray T. Benjamin  
Chief, Office of Management Services  
U.S. Geological Survey, National Center, Reston, Virginia



Date

VAR040126

Permit Number

U.S. Geological Survey

MS4 Name

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## STATUS OF COMPLIANCE

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1. Status of compliance with permit conditions
  - a) The facility will have storm drain inlets labeled to read "No Dumping" by November 2017 (BMP 1a).
2. Assessment of the appropriateness of the identified Best Management Practices (BMPs) and progress toward achieving the identified measureable goal for each of the minimum control measures.
  - a) The identified BMPs in Appendix A (except BMP 2b) have been determined to be appropriate. However to enhance the effectiveness of the BMPs, the goals and status columns have been re-evaluated and re-stated.
  - b) BMP 2b has been re-evaluated based on the results of previous year's effectiveness to disseminate relevant information about our MS4 program. The new BMP 2b provides a more focused approach toward getting MS4 information to our target audience.
  - c) The progress toward achieving the goals in each of the Minimum Control Measures (MCMs) is provided in Appendix A.

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## INFORMATION COLLECTED AND ANALYZED

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1. Results of information collected and analyzed, including monitoring data, if any
  - a) Outfalls are visually monitored quarterly (four times per year) in addition to the site being monitored 24/7 by onsite security force.
  - b) Copies of the quarterly inspection tables for the outfalls are provided in Appendix B.

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## SUMMARY OF STORMWATER ACTIVITIES

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1. Summary of the stormwater activities to be undertaken during the next reporting period
  - a) Outfalls will continue to be monitored and any discrepancies noted.

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## BMP CHANGES

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1. Changes to any identified BMPs or measureable goals for any of the Minimum Control Measures (MCMs) including steps to be taken to address any deficiencies
  - BMP 1a: Goals have been more defined by providing a completion date.
  - BMP 1c: Target audience more clearly defined by providing a number. Means to provide information on the listed issues is more clearly directed to the target audience.



- BMP 2a: More clearly defines using Earth Day activities as a means to provide information to the target audience.
- BMP 2b: Provides a more focused approach to get MS4 information to the target audience. Also provides a means to determine the effectiveness of the Earth Day activities by soliciting feedback from the attendees.
- BMP 3a: Clearly states updating storm drain plans to be completely electronic enabling drawings to be updated as necessary.
- BMP 3b: Provides dates to provide information to the target audience about IDDE (Illicit Discharge Detection and Elimination) and when "No Dumping" labels will be affixed to the storm drain inlets.
- BMP 3e: Additional information provided about the outfall inspection document and steps to include notification if IDDE is discovered.
- BMP 5b: Provides timeline for developing an SOP for an inspection and maintenance schedule for the existing on-site pond and other structural BMPs (storm drain system, infiltration trenches).
- BMP 5c: Provides timeline for developing an SOP for tracking the inspections and maintenance conducted on the stormwater management structures (storm drain, infiltration trenches, on-site pond).
- BMP 6a-c: Addresses the need to develop a Storm Water Pollution Prevention Plan (SWP3 Plan) and the necessary training.

The progress toward achieving the goals in each of the Minimum Control Measures (MCMs) is provided in Appendix A.

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#### **OTHER GOVERNMENT AGENCY RELIANCE**

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1. Notice that the operator is relying on another government entity to satisfy some of the state permit obligations (if applicable)
  - a) Not applicable

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#### **APPROVAL STATUS**

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1. Approval status of any programs pursuant to Section II C (if appropriate), or the progress toward achieving full approval of these programs
  - a) No appropriate programs

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#### **SECTION I.B.9 (TMDL CONDITIONS)**

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1. Information required for any applicable TMDL (Total Maximum Daily Load) special condition contained in Section I.
  - a) There are no approved TMDL waste load(s).

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### **SECTION II.B.3**

#### **(1) Outfalls Screened and (2) Illicit Discharge Detection and Elimination)**

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1. Outfalls Screened
    - a) Seven outfalls are screened (inspected) quarterly (4 times per year). See inspection documents provided in Appendix B
    - b) No follow-up activities required
  2. The number of illicit discharges identified and the narrative on how they were controlled or eliminated
    - a) There were no illicit discharges during this reporting period.
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### **SECTION II.B.4**

#### **(Construction Site Stormwater Runoff Control)**

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1. Regulated land disturbing activities are discussed in MCM4
    - a) There were no land disturbing activities during this reporting period.
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### **SECTION II.B.5**

#### **(Post-Construction Stormwater Management In New Development and Development on Prior Developed Lands)**

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1. Permanent stormwater facilities
  - a) There were no post-construction activities for this reporting period since all construction had been completed prior to the last reporting period.

# APPENDIXES

- Appendix A** Minimum Control Measures (MCM) Status Updates
- Appendix B** Outfall Inspections for Reporting Period July 1, 2016 thru June 30, 2017
- Appendix C** Outfall Location Figure and Updated Outfall Photographs (current for this reporting period)

# **APPENDIX A**

## **Minimum Control Measures (MCM) Status Updates**

**Effective Dates of Reporting  
July 1, 2016 through June 30, 2017**

**MCM1. Public Education and Outreach on Stormwater Impacts:**

U.S. Geological Survey (USGS) will continue its annual Earth Day activities that are open to the public and USGS employees. The handouts and activities focus on environmental-related topics. Beginning in 2015, there will be more information available related to storm drain awareness and the impacts illicit discharges have on downstream areas and water bodies. The labeling of the storm drain inlets will be an ongoing reminder of the areas that would be impacted. The responsible parties for these BMPs are the Section Chief, Operations and Maintenance and the Environmental Specialist for the National Center.

Proposed BMP (column 1)	Elements of BMP (column 2)	Objective and Expected Result(s) (column 3)	Implementation Schedule (column 4)	Measurable Goals (column 5)	Status (as of June 30, 2016) (column 6)	Status (as of June 30, 2017) (column 7)
1a. Labeling storm drain inlets	<ul style="list-style-type: none"> <li>Label or stencil onsite storm drain inlets to read "No Dumping", "Drains to Waterways", etc.</li> </ul>	<ul style="list-style-type: none"> <li>General awareness to visitors and employees</li> </ul>	To be stenciled or labeled by November 2017	<ul style="list-style-type: none"> <li>2017 Milestone: Inlets to be stenciled or labeled</li> </ul>	<ul style="list-style-type: none"> <li>Number of storm drain inlets or catch basins = 77</li> </ul>	<ul style="list-style-type: none"> <li>Materials to stencil or label inlets to be purchased and applied by November 2017</li> </ul>
1b. Annual Earth Day activities	<ul style="list-style-type: none"> <li>Different environmental-related activities including pollution prevention, recycling, sustainable vehicles</li> <li>General watershed information</li> <li>Drainage and impacts to watershed</li> <li>Handouts available to all participants</li> </ul>	<ul style="list-style-type: none"> <li>Awareness and information</li> <li>Public and employees</li> <li>Provide information relative to USGS National Center and environmental issues</li> <li>Will focus on educating public on the issues associated with illicit dumping</li> </ul>	April 2017 and ongoing	<ul style="list-style-type: none"> <li>2017 Milestone: Determine proposed watershed-related and stormwater-related activities to be incorporated into 2017 Earth Day activities</li> <li>2017 Ongoing Goal: Track attendance, handouts distributed, and quiz information</li> </ul>	<ul style="list-style-type: none"> <li>Critical watershed info was determined. Sugarland Run (drains to Potomac River); WS Mgmt Area is Upper Sugarland Run, and WS drainage area is 22.5 square miles.</li> <li>Began assessing various stormwater activities for Earth Day 2017 (questions to be answered pertaining to do's/don't, rain garden design, inlet protection, discharges)</li> </ul>	<ul style="list-style-type: none"> <li>Earth Day activities included question/answer discussions pertaining to pollution prevention.</li> </ul>

Proposed BMP (column 1)	Elements of BMP (column 2)	Objective and Expected Result(s) (column 3)	Implementation Schedule (column 4)	Measurable Goals (column 5)	Status (as of June 30, 2016) (column 6)	Status (as of June 30, 2017) (column 7)
1c. High priority water quality issue awareness	<ul style="list-style-type: none"> <li>• Identification of three (minimum) issues and rationale for selection</li> <li>• Identification of target audience and size</li> <li>• Identification of the message to be conveyed and method of conveyance</li> <li>• Determine if coordination with local MS4s is appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• To reach a minimum of 20% (or approx 420 personnel) target audience.</li> <li>• Awareness and provide information</li> </ul>	April 2017 and ongoing	<ul style="list-style-type: none"> <li>• 2017 Milestone: ID issues and develop rationale</li> <li>• 2015 Goal: Assess effectiveness of coordinating with local MS4s</li> <li>• 2015 Goal: Monitor % of target audience reached by selected means of conveyance</li> <li>• 2014 Milestone: ID target audience and size</li> </ul>	<ul style="list-style-type: none"> <li>• Issues determined and to be made part of Earth Day 2017 topics.</li> <li>• Discussions continue with DEQ about MS4 applicability</li> </ul>	<ul style="list-style-type: none"> <li>• Issue 1: Pollution Prevention (ongoing awareness is necessary since people become complacent)-Earth Day 2017</li> <li>• Issue 2: Illicit discharge (provide info on effect of illicit discharges)-Earth Day 2017</li> <li>• Issue 3: BMP Maintenance (determine maintenance schedule and assess effectiveness)</li> <li>• Target audience estimated to be about 420 persons.</li> </ul>

<b>MCM2. Public Involvement/Participation</b>						
USGS will continue involving the public and surrounding merchants during the annual Earth Day activities. The responsible parties for these BMPs are the Section Chief, Operations and Maintenance and the Environmental Specialist for the National Center.						
<b>Proposed BMP</b> (column 1)	<b>Elements of BMP</b> (column 2)	<b>Objective and Expected Result(s)</b> (column 3)	<b>Implementation Schedule</b> (column 4)	<b>Measurable Goals</b> (column 5)	<b>Status (as of June 30, 2016)</b> (column 6)	<b>Status (as of June 30, 2017)</b> (column 7)
2a. Annual Earth Day activities	<ul style="list-style-type: none"> <li>Includes providing fliers and posters (electronic and non-electronic) at visitor entrances notifying target audience of activities</li> <li>Includes activities open to public and employees</li> <li>Includes activities that include local merchants</li> <li>Place fliers in local merchant stores</li> </ul>	<ul style="list-style-type: none"> <li>Broaden awareness of the activities</li> <li>Get public / employees more involved</li> <li>Make public and employees more aware of impacts of illicit discharge to storm drains</li> </ul>	April 2017 and ongoing	<ul style="list-style-type: none"> <li>Ongoing Goal: Provide Earth Day info to target audience with fliers, posters (electronic and non-electronic)</li> </ul>	<ul style="list-style-type: none"> <li>Continue to provide Earth Day info to target audience.</li> <li>Information sharing with target audience during Earth Day activities</li> </ul>	<ul style="list-style-type: none"> <li>Earth Day info provided to target audience.</li> <li>Information sharing with target audience during Earth Day activities</li> </ul>
2b. MS4 Availability	<ul style="list-style-type: none"> <li>Provides info at Earth Day activities that include information about the USGS MS4 program.</li> <li>Provides information annually at visitor's entrances with fliers and posters (electronic and non-electronic)</li> <li>Post MS4 annual reports on USGS Intranet website (available to all USGS National Center personnel)</li> </ul>	<ul style="list-style-type: none"> <li>To make employees and the public more aware of steps taken to reduce or eliminate illicit discharges to USGS storm drains</li> <li>Provide a contact name and telephone number for comments or issues related to pollution</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>Solicit feedback from target audience during Earth Day activities to determine effectiveness of the activities.</li> </ul>	<ul style="list-style-type: none"> <li>Modify Earth Day activities as appropriate based on target audience feedback (i.e., more hands-on activities, more local merchants)</li> <li>Ongoing changes to activities as feedback is obtained.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing changes to Earth Day activities based on feedback received (i.e., different merchants).</li> <li>Researching possibility of posting MS4 annual reports to USGS Intranet.</li> <li>Pollution prevention was discussed with summer camp children (160 children during camp).</li> </ul>

### MCM3. Illicit Discharge Detection and Elimination (IDDE)

USGS will monitor the existing outfalls and the storm drain inlets routinely to detect and eliminate illicit discharges. Through an ongoing inspection program and utilizing baseline photographic records, elimination of illicit discharges will be achievable. The responsible parties for these BMPs are the Section Chief, Operations and Maintenance and the Environmental Specialist for the National Center.

Proposed BMP (column 1)	Elements of BMP (column 2)	Objective and Expected Result(s) (column 3)	Implementation Schedule (column 4)	Measurable Goals (column 5)	Status (as of June 30, 2016) (column 6)	Status (as of June 30, 2017) (column 7)
3a. Update and maintain storm drain drawing and table	<ul style="list-style-type: none"> <li>Drawing showing known outfall locations</li> <li>Drawing showing the approximate distance to receiving water body (if appropriate), drainage area to each outfall, name of receiving water body</li> <li>If development modifies the drainage system, the drawing will be updated accordingly</li> <li>Drawing to be electronic</li> </ul>	<ul style="list-style-type: none"> <li>To maintain a current and accurate storm drain drawing</li> </ul>	December 2018	<ul style="list-style-type: none"> <li>2018 Goal: Develop a fully electronic, up-to-date drawing in AutoCad or similar program.</li> </ul>	<ul style="list-style-type: none"> <li>Storm drain plans being imported into AutoCad.</li> </ul>	<ul style="list-style-type: none"> <li>Storm drain plans being updated in AutoCad.</li> </ul>
3b. Illicit discharges / illegal dumping prohibitions	<ul style="list-style-type: none"> <li>Develop a statement that will clearly and effectively prohibit IDDE (Illicit Discharge Detection and Elimination) into the storm system</li> </ul>	<ul style="list-style-type: none"> <li>To eliminate IDDE</li> </ul>	November 2017	<ul style="list-style-type: none"> <li>2017 Goal: Document to be provided to all National Center personnel about prohibiting IDDE</li> </ul>	<ul style="list-style-type: none"> <li>Facility is monitored (camera and physical presence) 24/7 by onsite security force</li> </ul>	<ul style="list-style-type: none"> <li>Document to be developed and distributed to all National Center personnel by November 2017.</li> <li>Storm drain inlets will be labeled or stenciled "No Dumping" by November 2017</li> </ul>
3c. Notifications	<ul style="list-style-type: none"> <li>Required notification to Fairfax County</li> </ul>	<ul style="list-style-type: none"> <li>Written notification of MS4 interconnection</li> </ul>	September 2017	<ul style="list-style-type: none"> <li>2017 Goal: Obtain written confirmation of notification</li> </ul>	<ul style="list-style-type: none"> <li>No change</li> </ul>	<ul style="list-style-type: none"> <li>Received 09/28/2017</li> </ul>
3d. Outfall condition screening and photographs	<ul style="list-style-type: none"> <li>Develop SOP for field screening outfalls</li> <li>Semi-Annual outfall and storm drain inlet inspection and documentation</li> <li>Photographs during no flow or low flow</li> <li>Photographs during high flow conditions (if possible)</li> </ul>	<ul style="list-style-type: none"> <li>To provide baseline photographs and information of each outfall</li> <li>Inspections to determine if illicit discharge has occurred</li> <li>Document total outfalls screened and results of screening</li> </ul>	December 2017	<ul style="list-style-type: none"> <li>2017 Milestone: Finalize SOP</li> <li>2014 Milestone: Photograph outfalls to use as baseline</li> <li>2015 Ongoing Goal: Photograph outfalls if issues for comparison to baseline</li> </ul>	<ul style="list-style-type: none"> <li>Draft SOP near completion including inspection table</li> </ul>	<ul style="list-style-type: none"> <li>Finalizing SOP for quarterly outfall screening.</li> <li>Conducted quarterly outfall screening and documented in table (see Appendixes B and C)</li> </ul>



Proposed BMP (column 1)	Elements of BMP (column 2)	Objective and Expected Result(s) (column 3)	Implementation Schedule (column 4)	Measurable Goals (column 5)	Status (as of June 30, 2016) (column 6)	Status (as of June 30, 2017) (column 7)
3e. Identification Procedures	<ul style="list-style-type: none"> <li>SOP outlining method of detection, identification, and addressing illicit discharges/illegal dumping</li> <li>SOP will outline methods for documenting communications with employees and public concerning issues/violations</li> </ul>	<ul style="list-style-type: none"> <li>To identify and track observations, investigations, and resolutions</li> <li>To make the documented information available to the public and employees during Earth Day activities/information</li> </ul>	April 2015 and ongoing	<ul style="list-style-type: none"> <li>2015 and ongoing: Report observations, investigations, and resolutions description and dates.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Facility is monitored (camera and physical presence) 24/7 by onsite security force</li> <li>Quarterly screening has been conducted and documented (see Appendix B).</li> <li>Instructions for the quarterly screening are provided on each page of the inspection document. Instructions will be changed to include steps to take if IDDE is discovered and how the info is disseminated.</li> </ul>

#### MCM4. Construction Site Stormwater Runoff Control

USGS will comply with Commonwealth regulations to install appropriate BMPs during all applicable construction activities and to inspect the BMPs until disturbed areas become fully stabilized. The responsible parties for these BMPs are the Section Chief, Operations and Maintenance and the Environmental Specialist for the National Center.

Proposed BMP	Elements of BMP	Objective and Expected Result(s)	Implementation Schedule	Measurable Goals	Status (as of June 30, 2016)	Status (as of June 30, 2017)
4a. Erosion and Sediment Control and Inspections During Construction	<ul style="list-style-type: none"> <li>Contract documents list the requirements that contractors must meet to conduct land disturbance activities</li> <li>All Erosion and Sediment Control Plans (E&amp;SCP) are required to have E&amp;SC Notes which specify Fairfax County telephone and contact info before starting any construction</li> <li>E&amp;SC Notes indicates all erosion control devices must be in place and inspected by the County prior to any ground disturbance</li> <li>E&amp;SC Notes indicate that all E&amp;SC Practices will be constructed and maintained in accordance with current edition of the VA Erosion and Sediment Control Handbook</li> <li>Plan will be compliant with standards provided in 4VAC-50-30-40 of the E&amp;SC Regulations</li> <li>E&amp;SC Notes provide authorization for County personnel to inspect/monitor to ensure compliance</li> <li>E&amp;SC Notes specify that a copy of the E&amp;SCP and permit be onsite at all times</li> <li>E&amp;SC Notes provide criteria to permanently stabilize disturbed area in accordance with the VA Erosion and Sediment Control Handbook</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with appropriate Commonwealth regulations pertaining to erosion and sediment control during construction activities</li> </ul>	Current and ongoing	<ul style="list-style-type: none"> <li>2018 Goal: Multi-year contract to mill and pave existing parking lots and sidewalks.</li> <li>2015 Goal: Report total land disturbed acreage and total number of projects</li> <li>2015 Goal: Report total number of inspections performed and any enforcement actions taken</li> </ul>	<ul style="list-style-type: none"> <li>Existing 2015 road project is being monitored by GSA and USGS as required</li> </ul>	<ul style="list-style-type: none"> <li>2018 begins new multi-year project to mill and pave existing parking lots and sidewalks. Required permits, inspections will be obtained.</li> <li>The 2015 road project has been completed and all disturbed areas fully stabilized.</li> <li>Info pertaining to the inspections conducted during the 2015 road project has not been received from GSA.</li> </ul>

	<ul style="list-style-type: none"> <li>All construction resulting in disturbed area <math>\geq 2,500</math> sf is required to obtain a Land Disturbance Permit from Fairfax County</li> <li>Construction with disturbed areas will adhere to VDEQ-regulations and VDEQ-accepted BMPs</li> </ul>								
4b. Construction Activity Tracking System	<ul style="list-style-type: none"> <li>Develop procedure to track land disturbing activities and to provide the information in our annual reports</li> </ul>	<ul style="list-style-type: none"> <li>Outline when and how inspections are conducted</li> <li>Compliance with appropriate Commonwealth regulations pertaining to erosion and sediment control during construction activities</li> </ul>	Current and ongoing	<ul style="list-style-type: none"> <li>2018 Goal; Multi-year contract to mill and pave existing parking lots and sidewalks.</li> <li>2015 and ongoing: total land disturbed acreage and total number of projects</li> <li>2015 Goal: Report total number of inspections performed and any enforcement actions taken</li> </ul>	<ul style="list-style-type: none"> <li>No additional land-disturbing activities have taken place in 2016</li> </ul>	<ul style="list-style-type: none"> <li>2018 Goal; new Multi-year contract to mill and pave existing parking lots and sidewalks.</li> <li>No additional land-disturbing activities have taken place during this reporting period</li> </ul>			

<b>MCM5. Post-Construction SWM (Storm Water Management) in New Development and Development on Prior Developed Lands</b> USGS will implement programs outlined in construction permits addressing minimizing or eliminating impacts to stormwater runoff from new development or modifications to existing development (redevelopment). The responsible parties for these BMPs are the Section Chief, Operations and Maintenance and the Environmental Specialist for the National Center.						
<b>Proposed BMP</b>	<b>Elements of BMP</b>	<b>Objective and Expected Result(s)</b>	<b>Implementation Schedule</b>	<b>Measurable Goals</b>	<b>Status (as of June 30, 2016)</b>	<b>Status (as of June 30, 2017)</b>
5a. Permits	<ul style="list-style-type: none"> <li>Develop plans, drawings, and submissions in accordance with the VA Stormwater Management Act (VSMA)</li> <li>Design and installation will be in accordance w/ 4VAC50-60</li> <li>Construction resulting in disturbed area <math>\geq</math> 2,500 sf is required to obtain a Virginia Stormwater Management Program permit from Fairfax County and may be required to develop a Stormwater Pollution Prevention Plan (SWPPP Plan)</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with appropriate Commonwealth regulations pertaining to stormwater runoff during construction activities</li> </ul>	Current and ongoing	<ul style="list-style-type: none"> <li>2015 Goal: Report total land disturbed acreage and total number of projects</li> <li>2015 Goal: Report total number of inspections performed and any enforcement actions taken</li> </ul>	<ul style="list-style-type: none"> <li>Info pertaining to the inspections conducted has not been received from GSA</li> <li>No additional land-disturbing activities have taken place in 2016</li> </ul>	<ul style="list-style-type: none"> <li>The 2015 road project has been completed and all disturbed areas fully stabilized.</li> <li>Info pertaining to the inspections conducted during the 2015 road project has not been received from GSA.</li> <li>No additional land-disturbing activities have taken place in this reporting period.</li> </ul>
5b. Site Inspection and Maintenance	<ul style="list-style-type: none"> <li>Develop an inspection and maintenance schedule and means of documenting info for the existing retention pond and other structural BMPs (as appropriate)</li> <li>List of BMPs with appropriate tracking information, including updating list with new BMPs brought online</li> </ul>	<ul style="list-style-type: none"> <li>Outline when and how inspections are conducted</li> <li>To ensure long-term operation of the BMP as designed</li> </ul>	March 2018	<ul style="list-style-type: none"> <li>2018 Goal: Establish inspection and maintenance program/schedule</li> <li>2017 Locate design drawings for existing retention pond</li> <li>2017 Milestone: Assess any available documents for existing pond maintenance program/schedule</li> <li>2015 ongoing goal: Update BMP list as implemented</li> </ul>	<ul style="list-style-type: none"> <li>To date, design drawings not located for onsite SWMF (Storm Water Management Facility)</li> </ul>	<ul style="list-style-type: none"> <li>SOP to be developed for inspection and maintenance by March 2018</li> <li>Part of the 2015 road project included the construction of roadside ditch infiltration trenches and infiltration systems to capture the runoff from the road surface and parking areas.</li> </ul>
5c. Permanent Stormwater Management Tracking	<ul style="list-style-type: none"> <li>Develop a tracking system for permanent stormwater management facilities.</li> </ul>	<ul style="list-style-type: none"> <li>To provide documentation of the inspection/ maintenance conducted on the BMPs</li> </ul>	March 2018	<ul style="list-style-type: none"> <li>March 2018: obtain design documentation</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Develop SOP including inspection table by March 2018</li> </ul>

<b>MCM6. Pollution Prevention/Good Housekeeping</b> USGS will implement an operation and maintenance program by utilizing BMPs to minimize or eliminate stormwater pollutant runoff from the site. The responsible parties for these BMPs are the Section Chief, Operations and Maintenance and the Environmental Specialist for the National Center.						
Proposed BMP	Elements of BMP	Objective and Expected Result(s)	Implementation Schedule	Measurable Goals	Status (as of June 30, 2016)	Status (as of June 30, 2017)
6a. Training and General Awareness	Schedule to develop training SOP to address: <ul style="list-style-type: none"> <li>preventing IDDE;</li> <li>ensuring proper waste disposal (including landscape wastes);</li> <li>minimizing pollutants in stormwater runoff (bulk storage areas);</li> <li>proper fertilizer/pesticide applications</li> </ul>	<ul style="list-style-type: none"> <li>To further develop awareness of impacts associated with pollution and its effects on surface waters and steps to minimize or eliminate impacts</li> </ul>	March 2018	<ul style="list-style-type: none"> <li>2018 Goal: Implement training and track attendance/completion</li> <li>2014 Milestone: Assess best method of providing awareness training to personnel and tracking</li> </ul>	<ul style="list-style-type: none"> <li>Assessing pollution prevention DOI</li> <li>Learn training and appropriateness to National Center</li> <li>Assessing best means of getting appropriate personnel to take course.</li> </ul>	<ul style="list-style-type: none"> <li>SWPP Plan (Storm Water Pollution Prevention Plan) to be developed and training provided by March 2018.</li> </ul>
6b. Potential Pollutant Assessment	<ul style="list-style-type: none"> <li>Assessment of the facility to identify areas that are a potential source of pollution</li> <li>Assess existing SOPs for materials being stored onsite that could contribute to pollution</li> <li>Modify existing SOPs or develop new SOPs to address onsite exterior storage issues</li> </ul>	<ul style="list-style-type: none"> <li>Identify pollutant sources that will be incorporated in the SWPP Plan</li> <li>To reduce or eliminate onsite pollution and eliminate illicit discharges</li> </ul>	March 2018	<ul style="list-style-type: none"> <li>2017 Goal: Determine pollutant sources</li> </ul>	<ul style="list-style-type: none"> <li>Potential pollution sources to be determined.</li> </ul>	<ul style="list-style-type: none"> <li>Assess existing relevant SOPs and modify as necessary to address potential pollution.</li> </ul>
6c. SWPP Plan	<ul style="list-style-type: none"> <li>Determination if a SWPP Plan is required.</li> <li>Components as outlined in Section II.B.6.b.(4) of Section II of the Municipal Separate Storm Sewer System Management Plan</li> </ul>	<ul style="list-style-type: none"> <li>Develop procedures designed to reduce and prevent pollutant discharge</li> <li>Develop an inspection and maintenance schedule.</li> </ul>	March 2018	<ul style="list-style-type: none"> <li>2018 Milestone: Develop SWPP Plan</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>SWPP Plan to be developed and training provided by March 2018.</li> </ul>
6d. Nutrient Management Plan (NMP)	<ul style="list-style-type: none"> <li>Assessment of existing nutrient/pesticide use to determine if an NMP needs to be developed.</li> </ul>	<ul style="list-style-type: none"> <li>To determine if an NMP needs to be developed or if existing nutrient/pesticide use is proper.</li> </ul>	March 2018	<ul style="list-style-type: none"> <li>2017 Goal: Assess new contract for grounds maintenance to determine effectiveness.</li> </ul>	<ul style="list-style-type: none"> <li>Assess latest landscape contract</li> </ul>	<ul style="list-style-type: none"> <li>Landscape contract provides minimal maintenance-level use of fertilizer and pesticides as needed</li> <li>Pertinent info to be incorporated into SWPP Plan</li> </ul>

# **APPENDIX B**

## **Outfall Inspections**

**Effective Dates of Reporting  
July 1, 2016 through June 30, 2017**

**INSTRUCTIONS:** For each of the parameters, respond to the question and insert only the date of inspection under the appropriate quarter if there are NO VISUAL ISSUES. If there are visual issues, describe on the lines at the bottom of this page (or on back of page if necessary) and note the outfall number. Legibly print the inspector's name.

YEAR partial calendars 2016-2017	Condition Determination Question	Quarter 3 This Report (Jan-Mar)	Quarter 4 This Report (Apr-Jun)	Quarter 1 This Report (Jul-Sep)	Quarter 2 This Report (Oct-Dec)
Outfall 001 (sample at end of pipe/structure) VPDES General Permit #VAR040126 Located behind Physics Building	Is there an odor?	2/28/2017 No Flow	5/30/2017 No Flow	9/14/2016 No Flow	10/27/2016 No Flow
	Is there a color?	1 <sup>st</sup>	0930	0915	1030 A
	Is the sample clear?				
	Are there floatables?				
	Are there deposits (stains)?				
	What is condition of the vegetation?	No stress	No stress	No stress	No stress
	What is condition of the structure?	Good	Good	Good	Good
Is there visible biology (fish, frogs, etc.)	No	No	No	No	

YEAR partial calendars 2016-2017	Condition Determination Question	Quarter 3 This Report (Jan-Mar)	Quarter 4 This Report (Apr-Jun)	Quarter 1 This Report (Jul-Sep)	Quarter 2 This Report (Oct-Dec)
Outfall 002 (sample at end of flared end section) VPDES General Permit #VAR040126 Located behind ACS Building	Is there an odor?	2/28/2017 No Flow	5/30/2017 No Flow	9/14/2016 No Flow	10/27/2016 No Flow
	Is there a color?	1 <sup>st</sup>	0930	0915	1030
	Is the sample clear?				
	Are there floatables?				
	Are there deposits (stains)?				
	What is condition of the vegetation?	No stress	No stress	No stress	No stress
	What is condition of the structure?	Good	Good	Good	Good
Is there visible biology (fish, frogs, etc.)	No	No	No	No	

**INSPECTOR:** *Lincoln E. Hernandez*

**ADDITIONAL COMMENTS:**



**INSTRUCTIONS:** For each of the parameters, respond to the question and insert only the date of inspection under the appropriate quarter if there are NO VISUAL ISSUES. If there are visual issues, describe on the lines at the bottom of this page (or on back of page if necessary) and note the outfall number. Legibly print the inspector's name.

YEAR partial calendars 2016-2017	Condition Determination Question	Quarter 3 This Report (Jan-Mar)	Quarter 4 This Report (Apr-Jun)	Quarter 1 This Report (Jul-Sep)	Quarter 2 This Report (Oct-Dec)
Outfall 003 (sample at end of pipe/structure) VPDES General Permit #VAR040126 From catch basin in road near ACS Building	Is there an odor?	2/28/2017 No Flow	5/30/2017 No Flow	9/14/2016 No Flow	10/27/16 No Flow
	Is there a color?	10	0930	0915	1030
	Is the sample clear?				
	Are there floatables?				
	Are there deposits (stains)?				
	What is condition of the vegetation?	No Stress	No Stress	No Stress	No Stress
	What is condition of the structure?	Good	Good	Good	Good
Is there visible biology (fish, frogs, etc.)	No	No	No	No	

YEAR partial calendars 2016-2017	Condition Determination Question	Quarter 3 This Report (Jan-Mar)	Quarter 4 This Report (Apr-Jun)	Quarter 1 This Report (Jul-Sep)	Quarter 2 This Report (Oct-Dec)
Outfall 004 (sample at end of pipe/structure) VPDES General Permit #VAR040126 Behind Powerhouse	Is there an odor?	2/28/2017 No	5/30/2017 No	9/14/2016 No Flow	10/27/2016 No Flow
	Is there a color?	10 No Super Flow	0930	0915 STAGNANT	1030
	Is the sample clear?	Yes	Yes		
	Are there floatables?	No	No		
	Are there deposits (stains)?	No	No		
	What is condition of the vegetation?	Good	Good	No Stress	No Stress
	What is condition of the structure?	Good	Good	Good	Good
Is there visible biology (fish, frogs, etc.)	No	No	No	No	

**ADDITIONAL COMMENTS:** INSPECTOR: *LEE E. HERING*



**INSTRUCTIONS:** For each of the parameters, respond to the question and insert only the date of inspection under the appropriate quarter if there are NO VISUAL ISSUES. If there are visual issues, describe on the lines at the bottom of this page (or on back of page if necessary) and note the outfall number. Legibly print the inspector's name.

YEAR  
partial calendars  
**2016-2017**

Condition Determination  
Question

Quarter 3  
This Report  
(Jan-Mar)

Quarter 4  
This Report  
(Apr-Jun)

Quarter 1  
This Report  
(Jul-Sep)

Quarter 2  
This Report  
(Oct-Dec)

<b>Outfall 005</b> (sample at end of pipe) VPDES General Permit #VAR040126 Behind Powerhouse-OW Separator	Is there an odor?	2/28/17	Flow	No F.	5/14/2016	No Flow	10/27/2016
	Is there a color?	1 PM			8:10 AM		10:30
	Is the sample clear?						
	Are there floatables?						
	Are there deposits (stains)?						
	What is condition of the vegetation?			No STRESS		No STRESS	No STRESS
	What is condition of the structure?			Good		Good	Good
	Is there visible biology (fish, frogs, etc.)			No		No	No

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<b>Outfall 006</b> (sample at end of flared end section) VPDES General Permit #VAR040126 From onsite SWM Pond	Is there an odor?	7/28/2017	No Flow	No	5/14/2016	No Flow	10/27/2016
	Is there a color?	1 PM			8:15 AM	No	10:30
	Is the sample clear?						
	Are there floatables?						
	Are there deposits (stains)?						
	What is condition of the vegetation?			No STRESS		No STRESS	No STRESS
	What is condition of the structure?			Good		Good	Good
	Is there visible biology (fish, frogs, etc.)			No		Yes	Yes

few      for      for

INSPECTOR:

LARRY E. HEELENSTEINER

ADDITIONAL COMMENTS:

**INSTRUCTIONS:** For each of the parameters, respond to the question and insert only the date of inspection under the appropriate quarter if there are NO VISUAL ISSUES. If there are visual issues, describe on the lines at the bottom of this page (or on back of page if necessary) and note the outfall number. Legibly print the inspector's name.

YEAR partial calendars 2016-2017	Condition Determination Question	Quarter 3 This Report (Jan-Mar)	Quarter 4 This Report (Apr-Jun)	Quarter 1 This Report (Jul-Sep)	Quarter 2 This Report (Oct-Dec)
<b>Outfall 007</b> (sample at end of pipe) VPDES General Permit #VAR040126 In wooded area near Sunrise Valley Drive	Is there an odor?	2/20/2017 No Flow	5/30/2017 No Flow	9/14/2016 No Flow	10/27/2017 No Flow
	Is there a color?	1 pin	930	0915	1030
	Is the sample clear?				
	Are there floatables?				
	Are there deposits (stains)?				
	What is condition of the vegetation?	No Stress	No Stress	No Stress	No Stress
	What is condition of the structure?	Good	Good	Good	Good
	Is there visible biology (fish, frogs, etc.)	No	No	No	No
<div style="display: flex; justify-content: space-around;"> <span>for</span> <span>for</span> <span>for</span> </div>					
	Is there an odor?				
	Is there a color?				
	Is the sample clear?				
	Are there floatables?				
	Are there deposits (stains)?				
	What is condition of the vegetation?				
	What is condition of the structure?				
	Is there visible biology (fish, frogs, etc.)				

INSPECTOR: Larry C. Herzog *for*

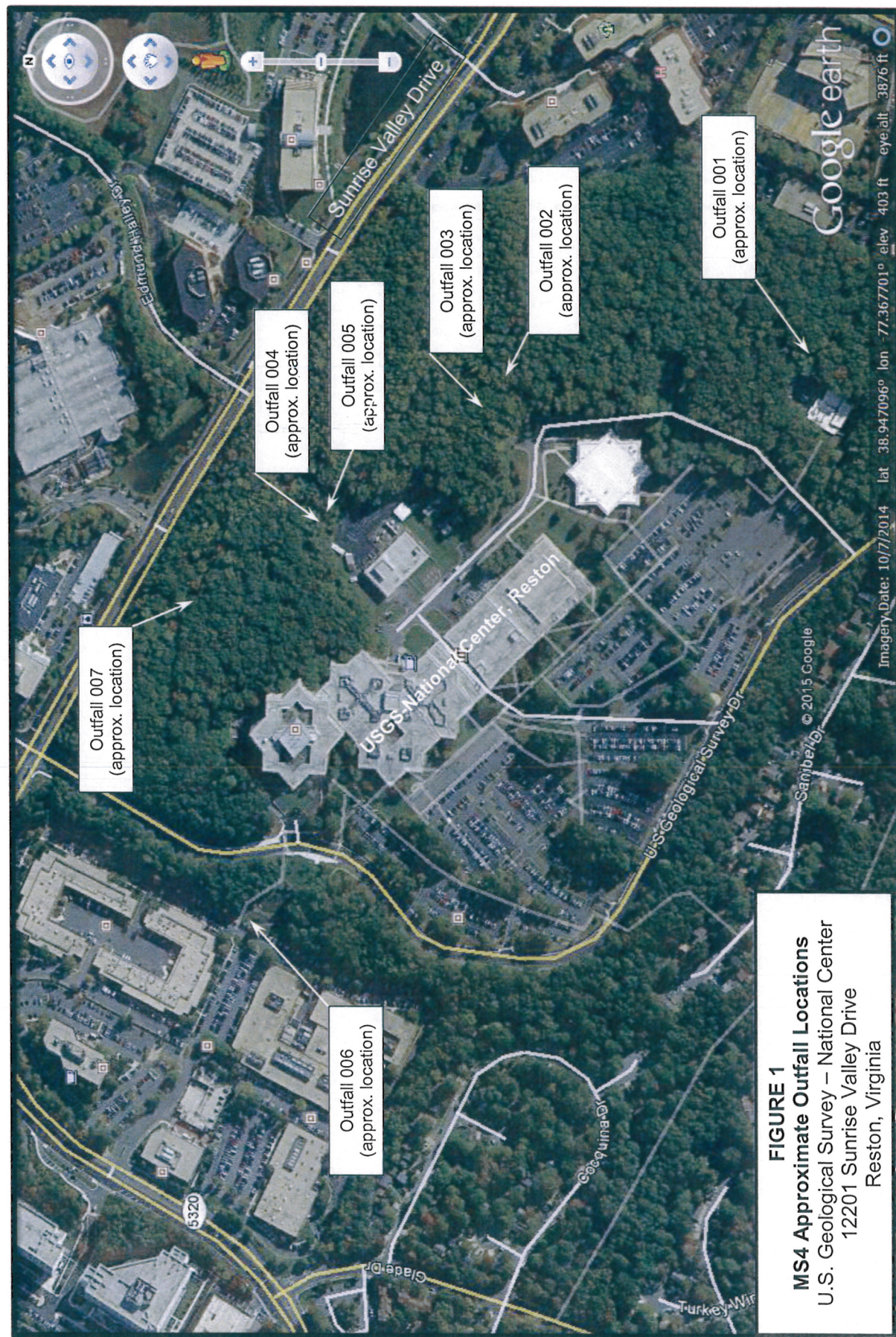
ADDITIONAL COMMENTS:

# **APPENDIX C**

## **Outfall Location Figure and Outfall Photographs**



## Figure 1





# Outfall Photos



Outfall 2 looking upstream



Outfall 2 looking downstream



Outfall 4 looking upstream



Outfall 3 looking downstream



Outfall 3 looking upstream



Outfall 1 looking downstream



Outfall 1 looking upstream



Outfall 4 looking downstream



## Outfall Photos



Outfall 6 looking  
upstream



Outfall 6 looking  
downstream



Outfall 5 looking  
upstream



Outfall 5 looking  
downstream



Outfall 7 looking  
upstream



Outfall 7 looking  
downstream