U.S. Army Garrison Fort Belvoir, Virginia

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VPDES)
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT

ANNUAL REPORT

For

Virginia General Permit for Small Municipal
Separate Storm Sewer Systems
VPDES Permit #VAR040093

July 1, 2018 - June 30, 2019

September 2019

Prepared By:

SCF Construction and Fuel Services LLC

7217 Lockport Place, Suite 201
Lorton, VA

Table of Contents

TABLES

APPENDICES

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VDPES)
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT
FORT BELVOIR ANNUAL REPORT
JULY 1, 2018 - JUNE 30, 2019

Information provided in this annual report is provided as specified in the MS4 General Permit codified in 9VAC25-890-40 and effective November 1, 2018. Additionally, VADEQ provided an MS4 Annual Report Submittals – Minimum Requirements for the 2018-2023 MS4 General Permit Checklist via email on August 2, 2019.

1. Background Information (Part I.D.2)

a. Name and permit number of the permitted facility submitting the annual report:

US Army, Fort Belvoir, Virginia MS4 Permit Number: VAR040093

b. Annual Report Year: July 1, 2018 - June 30, 2019

c. Modifications to any operator's department's roles and responsibilities:

The Director of Public Works, Bill Sanders, has retired and Christopher Landgraf has been named the Acting Director, a delegation of signature authority is provided in Appendix A. The MS4 Program Manager, Pamela Couch, has taken a new position and Sybille Vega has been named the Acting MS4 Program Manager and can be contacted at Sybille.r.vega.civ@mail.mil.

d. Number of new MS4 outfalls and associated acreage by HUC added during the permit year:

There were three new outfalls brought online during the reporting period July 1, 2018 - June 30, 2019 as a result of new construction projects. Appendix B contains pertinent data for these outfalls.

e. Signed Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Christopher Landgraf
Acting Director of Public Works

30 SEP 2019
Date

VAR 040093
MS4 Permit Number

Fort Belvoir
MS4 Name

2. Minimum Control Measure Implementation (Part I.E)

a. MCM#1 – Public Education and Outreach

i. Part I.E.1.g (1) and (2)

Provide a list of at least three high-priority stormwater issues addressed in the public education and outreach plan and provide a list of strategies used to communicate each high-priority stormwater issue.

Fort Belvoir chose to implement four (4) strategies listed in Table 1 of the MS4 General Permit including traditional written materials, signage, media materials, and speaking engagements. These strategies were used in order to educate the public on key water quality issues to include bacteria, nutrients, sediment, chloride, grease, and chloride applicable to TMDLs at Fort Belvoir. Table 1 below summarizes activities conducted and the associated reporting data for the reporting period. Supporting documentation (newspaper articles, newsletters, resident responsibility guide, brochures, etc.) are available upon request.

Table 1: Education and Outreach Activities (July 1, 2018 – June 30, 2019)

Media Materials: Articles Published in The Belvoir Eagle Total number of newspapers printed/circulated = 19,000[2] Total Population = 40,253[3]				
Date	**Issue**	**Theme**	**Name of Article**	**Topic**
September 13, 2018	Sediment	Erosion Prevention	*Why Native Plants?*	Importance of Native Plants and Advertisement for National Public Lands Day Cleanup
September 20, 2018	Sediments, Nutrients, Bacteria, TPH, Litter	Pollution Prevention	*Pollution Prevention Week Focuses on Water Quality*	Celebration of Pollution Prevention Week, Tips for P2 at home, and The purpose of Drain Stenciling
November 15, 2019	Chloride	Salt Application	*"In Winter, Salt Roads, Not Rivers"*	Winter Maintenance and Salt Application and New Accotink Creek TMDL
March 14, 2019	Nutrients	CWA and Chesbay	*"When Too Much of a Good Thing is Bad!"*	Nutrient Loading in the Chesbay, Algae growth, and Tips for P2 at home
June 6, 2019	Sediments, Nutrients, Bacteria, TPH, Litter	FOG, Erosion Prevention, Fertilizers	*"Summer Pollution Prevention"*	Car washing and maintenance, Lawn Care and Reporting of Construction Site Issues, Pet waste and 'leave no trace'
Media Materials: Guides Distributed to Housing Community Housing Units/Homes on post = 2,154[7] Email delivery for housing = 2,836[7]				
Date	**Issue**	**Theme**	**Name of Article**	**Topic**
June 6, 2019	Sediments, Nutrients, Bacteria, TPH, Litter	Summer Pollution Prevention	*"Practice Pollution Prevention this Summer!"*	Lawn Care, Pet Walking, Car Washing and Maintenance, Hiking/Going on a Picnic, and Reporting Construction Activities

Traditional Written Materials: Newsletters Distributed to High-Priority Facility Personnel Via Email[8] and Posted on Facebook for the General Public				
Date	**Issue**	**Audience**	**Title**	**Topic**
November 19, 2018	Chloride	Email: 77 Facebook: 26	Fall Stormwater Pollution Prevention Newsletter	New Chloride TMDL for the Accotink Creek, Spill Reporting, Illicit Discharges
January 1, 2019	Chloride, Sediment	Email: 77 Facebook: 87	Winter Stormwater Pollution Prevention Newsletter	Salt Storage, Snow melt runoff, Construction Project Requirements
April 1, 2019	Sediment, Nutrient, Litter,	Email: 151 Facebook: 20	Spring Stormwater Pollution Prevention Newsletter	Earth Day Cleanups, Tree Planting and other Events, Spring Cleaning Tips for disposal of unwanted materials
June 25, 2019	Sediment, Grease, Detergents	Email: 151 Facebook: 39	Summer Stormwater Pollution Prevention Newsletter	Storm Drain Labeling and Summer Clean-up, New Sharepoint Site, washwaters management, military training site controls
Signage Storm Drain Stenciling				
Date	**Issue**	**Drains Stenciled**	**Materials**	**Message**
August-September 2018	Sediments, Nutrients, Bacteria, TPH, Litter	109 Inlets	Placards and Stencils	Placard: *"No Dumping, Drains to Potomac River"* Stencil: *"No Dumping Drains to Waterway"*
Speaking Engagements: Presentations Interactive Displays and Stormwater Awareness Brochures Distributed during Events				
Date	**Issue**	**Audience**	**Event**	**Materials Distributed**
September 8, 2018	Nutrients, Bacteria	75 brochures distributed to 167 people and 81 dogs in attendance[1]	MWR Pooch Plunge	Brochure: "*Are You Cleaning Up After Your Pet?"*
October 20, 2018	Sediments, Nutrients, Bacteria, Grease, Chloride	400[4] students were in attendance	9th Annual STEAM Family Day	Display: *Salt Melt Experiment* Brochure: *"Don't Dump Here… It Ends Up Here"* and *"A Monster Lurking in the Storm Drain"*

Speaking Engagements: Presentations Continued Interactive Displays and Stormwater Awareness Brochures Distributed during Events				
Date	**Issue**	**Audience**	**Event**	**Materials Distributed**
November 8, 2018	PCBs; Chloride;	130[5] Adults were in attendance	Inaugural Belvoir Partners & Community Council Luncheon	Brochure: *"Don't Dump Here… It Ends Up Here"* and *"PCB Awareness"* Fact Sheets: *"Salt Storage, Vehicle and Equipment, Fueling, and Maintenance"*
April 16, 2019	Sediment , Litter	73 Children and 37 Adults were in attendance[4]	Earth Day Celebration	Displays: *Sediment Disposition vs. Vegetation* *Common Stormwater Pollutants* *Litter and Water Quality* Brochure: *"Now We Know Better"* and *"Protect our Local Waterways"* Stickers: *"Fort Belvoir Protecting the Chesapeake Bay"* Coloring Books: *"Army Environmental Command, Earth Day 2019"*
April 25, 2019	Sediment, Litter	30 Children and 10 Adults were in attendance[5]	MDA Take Your Child to Work Day	Displays: *Sediment Disposition vs. Vegetation* *Common Stormwater Pollutants* Brochure: *"Now We Know Better"* and *"Protect our Local Waterways"*
May 22, 2019	Sediment, Detergent, Grease, Litter	244[6] Soldier were in attendance	DAAF Annual Safety Stand Down	Displays: *Common Stormwater Pollutants* *Spill Response and Material Handling* Brochure: *"Now We Know Better"* and *"Protect our Local Waterways"*
June 12, 2019	Sediment, Grease, Detergents	200 Soldiers and Civilians in attendance	Garrison Safety Day 2019	Displays: *Common Stormwater Pollutants* *Spill Response and Material Handling* Brochures: *"Now We Know Better"* and *"Protect our Local Waterways"*

[1] Event attendance provided by Fort Belvoir Aquatics Director
[2] Belvoir Eagle circulation, http://www.belvoir.army.mil/eagleadvertising.asp
[3] Garrison population data: Fort Belvoir Army Stationing and Installation Plan (ASIP) Fiscal Year (FY18) Summary
[4] Attendance list from STEAM Day
[5] MDA attendance reported by SCF contractor Ashley Clark
[6] Event attendance reported by DAAF Safety Specialist Ross Steadman
[7] Housing Units and Distribution
[8] Distribution list/delivery from Industrial Stormwater Program Manager

A list of education and outreach activities planned for the next reporting period (July 1, 2019 – June 30, 2020) may be found in the most recent MS4 Program Plan.

ii. Review of MCM#1 Program Effectiveness:

For the reporting period, July 1, 2018 - June 30, 2019, Fort Belvoir completed the following actions to maintain compliance with permit conditions of both the old and new MS4 General Permit that became effective on November 1, 2018:

- As required by Section II, B.1 of the old permit, education and outreach activities were designed and conducted to reach an equivalent of 20% of each high-priority issue target audience. See Table 1 for a list of specific activities conducted during this permit cycle. All activities conducted exceeded the goal of reaching 20% of the target audience.
- As Required by Part I.E.1 of the new permit the Education and Outreach plan was updated in April 2019 to clearly identify at least three (3) high priority water quality issues and why they are important, provide methods for the public to contact the MS4 program for information or comments, and to utilize two (2) or more strategies listed in Permit Part I.E.1.d to educate the public on the issues and what can be done to reduce stormwater pollution.
- The Education and Outreach activities were greatly expanded during the reporting cycle due to a coordinated efforts with Public Affairs Office (PAO) to get greater advisement potential by giving DPW Environmental more control over the home page as well as a wider distribution through the development of a general environmental outreach plan with weekly goals for posting of environmental topics on Facebook. Efforts also extended to the Belvoir Eagle to get a monthly slot in the paper to discuss environmental topics.

BMP 1.1 for the Public Education and Outreach MCM continues to remain effective and utilizes various communication media (newspaper, Facebook, email mass notification, fact sheets, newsletters, speaking engagements) available within the Fort Belvoir organization. The Program Plan dated October 2018 called for the implementation of the education and outreach plan based on requirements for the old permit. The BMPs in the Program Plan for this MCM were reviewed and updated to meet new permit requirements in April of 2019. How Fort Belvoir achieved compliance with the measurable goals for MCM #1 based on the updated Program Plan is discussed below.

BMP 1.1 Implement a Public Education and Outreach Plan:

The measurable goals to annually conduct sufficient education and outreach activities designed to increase public's knowledge on how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns; increase the public's knowledge of hazards associated with illegal discharges and improper disposal of wastes, including pertinent legal implications; and implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts will be achieved by:

(1) Clearly identifying three high priority water quality issues to meet the goal of educating the public;

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

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

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

(5) Utilizing two or more of the strategies listed in Permit Part I.E.1.d to communicate to the public the high-priority stormwater issues identified and how to reduce stormwater pollution; and

(6) Annually reviewing and revising, as needed the Public Education and Outreach Plan.

These goals were met during the reporting period July 1, 2018- June 30, 2019 as follows:

- Four Stormwater Newsletters were developed to cover high priority water quality topics like chloride, sediment, litter, and bacteria. The newsletter provided updates on permit compliance activities, trainings, and pollution prevention, including a seasonally appropriate topics (i.e. de-icing in January, lawn maintenance in June). The newsletters, articles, and flyers explained the importance of preventing these different pollutants and how they affect current TMDL Action plans in place. All forms of media contained information on pollution prevention practices that the public can take to minimize stormwater runoff pollutants. Newsletters were distributed to ISW permitted tenants, MS4 HPF tenants, and top 25 ECOs and published to the Environmental Division Facebook page. Newsletters were published on November 19, 2018, January 1, 2019, April 1, 2019, and June 25, 2019.
- Four articles were written and published by the Fort Belvoir Eagle newspaper about high priority water quality topics like chloride, nutrient, PCBs, bacteria, detergents, litter, and sediment. Articles “Pollution Prevention Week Focuses on Water Quality,” “In Winter, Salt Roads, Not Rivers,” “When Too Much of a Good Thing is Bad,” and “Stormwater Moves Pollutants into Waterways” were posted on September 20, 2018, November 15, 2018, March 14, 2019, and June 6, 2019.
- Summer Pollution Prevention flyer that covered high priority water quality topics like nutrients, bacteria, detergents, litter, and sediment was distributed to ISW permitted tenants, MS4 HPF tenants, civilians and soldiers on Fort Belvoir, and housing residents through e-mail, Facebook, and the Fort Belvoir Eagle newspaper. This flyer was distributed throughout June of 2019.
- BMP Factsheets were updated during the 2018 - 2019 permit year to consolidate information and reformat for easier use and readability. BMP Factsheets were submitted for approval process and distributed to HPF and ISW tenants and on an as needed basis.
- Between August and September 2018 representatives from SCF installed Storm Drain Markers on 109 inlets with a “No Dumping, Drains to Potomac River” placard or a “No Dumping Drains to Waterway” stencil.

- The Facebook page, https://www.facebook.com/Fort-Belvoir-DPW-Stormwater-1050650608312490/, specifically for stormwater was used six (6) times during this reporting period to distribute two stormwater newsletters, provide information on public participation events, and address pollutant-specific topics. No comments or complaints were received via the social media platform;
- Fort Belvoir DPW Stormwater page was consolidated to a DPW Environmental Facebook page in May 2019. The Facebook page, https://www.facebook.com/FortBelvoirEnvironmental , was used one (1) time during this reporting period to address pollutant-specific topics.
- DPW ED stormwater staff provided 75 "Are You Cleaning Up After Your Pet?" brochures to Directorate of Family and Morale, Welfare and Recreation (DFMWR) for the annual "Pooch Plunge" that was held on September 8, 2018 at the Fort Belvoir Officer's Club pool to educate the pet owning population about pet wastes' impact on stormwater. There were 167 human and 81 canine participants;
- Numerous activities were conducted on and around Earth Day 2019. The Belvoir Eagle published an article by DPW ED which included a comprehensive list of upcoming education and participation opportunities and events. On the Fort Belvoir Environmental Facebook page numerous bulletins regarding upcoming and completed Earth Day activities were published. On April 16, 2019, DPW ED staff set up multiple presentations at the Earth Day Celebrations for kids at the Education Center. During core lunch hours of 10 am to 2 pm. Approximately 50 people visited the interactive displays which demonstrated common sources of illicit discharges, the effect of pollutants to waterways, and what can be done to prevent pollutants from entering surface waters. Copies of stormwater educational materials were made available and included the U.S. EPA brochure entitled, "*After the Storm: A Citizens Guide to Understanding Stormwater* (EPA 833-B-03-002, January 2003) and Fort Belvoir brochures entitled, "*Are You Cleaning Up After Your Pet?*" and "*Don't Dump Here…It Ends Up Here"*. "Fort Belvoir Protecting the Chesapeake Bay" stickers and "Army Environmental Command, Earth Day 2019" coloring books were also handed out. To bring awareness to proper grease disposal and reporting procedures for PCB transformers, fact sheets on *"Grease Handling"* and "*PCB Awareness"* were also distributed.
- MS4 Contact information is located on the Fort Belvoir Environmental Division web page, https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division
- Public Education and Outreach Plan was reviewed and revised in April of 2019 to cover requirements of the new permit and added chloride as a high priority issue for the Garrison due to a new TMDL for the Accotink Creek. The plan will be reviewed and revised as needed during the 2019-2020 reporting period.

b. MCM#2 – Public Involvement/Participation

i. Part I.E.2.f (1)

Provide a summary of any public input on the MS4 Program received (including stormwater complaints) and the permit holder responses.

The MS4 Stormwater Program did not receive any comments on any of the Program Plans posted on the website on October 2018, April 2019, or June 2019.

All Stormwater complaints received from the public are managed under the IDDE program discussed under MCM #3. Public complaints are characterized under the 'Direct Notification' category. Only four (4) of the direct notifications were made by someone outside of DPW trained staff via a phone call, incidents 19-16, 19-17, 19-30, and 19-49.

- 19-16: On October 2, 2018 DPW received a call stating that someone was dewatering into a storm drain (5901) without the use of a sediment bag. DPW Stormwater Staff investigated the incident and found that the discharge was due to American Water, the privatized drinking water contractor, was flushing a newly installed water line. They were using de-chlorination practices and had a back-flow preventer in place. This was found to be an invalid complaint and the incident was closed on October 2, 2018

- 19-17: On October 10, 2018 DPW received a call about a soapy discharge coming from a roof drain at building 1420. DPW Stormwater Staff immediately went out to the site to try to determine a source. Upon arrival on site booms were installed around the surrounding inlets to prevent suds from entering the storm system as an initial control measure. The investigation of source continued but no operational sources were found (i.e. washing). It was discovered that the roof to the building was being redone and the asphalt rolls had been taken up to the roof for staging just before the storm. The manufacturing company was contacted and described their process which included spraying the rolls with dawn soap prior to rolling. It was determined that the suds were from the manufacturing process and were not found to have an adverse impact. The incident was closed on October 11, 2018.

- 19-30: On March 25, 2019 DPW received a call about an outfall that was discharging a large amount of water during dry weather. DPW personnel were able to identify the outfall as MS4 structure 3656 based on the location description. According to stormwater maps outfall 3656 received discharge from a large open field and a portion of an active construction site under a CGP. The inspector for the project was notified and the site was contacted. The discharge was found to be from dewatering of two sediment basins from the project site and sediment bags were being used to minimize the amount of sediment being discharged as per their SWPPP. The incident was closed on March 25, 2019.

- 19-49: On June 25, 2019 DPW received a call from the Tulley Gate Visitor's Center reporting a vehicle leaking gasoline in the parking area. The fire department was called and the spill response group was notified. The response was made in time to confine the spill to the parking area and putty was used to plug the vehicle's tank to prevent further spillage. A flatbed truck was ordered to remove the vehicle from the facility premises for repairs. Absorbents were used to clean up any residual spill debris and then was properly disposed of. The incident was closed on June 25, 2019.

ii. Part I.E.2.f (2)

Provide a webpage address to the MS4 Program Plan and Stormwater Website

Copies of the updated MS4 Program Plan, this annual report, and any other pertinent stormwater documents will be posted on the Fort Belvoir website https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division under the Programs and Documents, then MS4 Stormwater by October 1st of every year.

iii. Part I.E.2.f (3) and (4)

Provide a Description of the Public Involvement Activities implemented during the reporting period. A minimum of four activities per year from two or more categories listed in Table 2 of the MS4 General Permit. Provide a report of the metrics used to define effectiveness for each activity and an evaluation as to whether or not the activities is beneficial to improving water quality.

Thirteen public involvement activities were conducted during the reporting period July 1, 2018 - June 30, 2019. Most of the events held fall into the restoration and educational event category and one event was under the pollution prevention category. Fort Belvoir found that all three types of events were effective in improving water quality. All cleanup events saw immediate results through the removal of trash already effecting water quality in streams. The tree planting efforts were effective in addressing long term issues dealing with erosion in the areas picked for planting, working to minimize the amount of sediments being discharged. The educational events served in showing the public and military personnel common stormwater issues and presented information on what they can do on a regular basis to prevent stormwater pollution. While storm drain stenciling provides a passive method of communication with the general public bringing attention to issues like dumping. Table 2 below shows the activities and metrics used in determining effectiveness for the public involvement activities that were conducted. Supporting documentation is available upon request.

Table 2: Public Involvement Activities (July 1, 2018 - June 30, 2019)

Date	Name of Event/Activity	Category from Permit Table 2	Metric
August 9 – 10, 2018	Individual Community Service	Restoration	Volunteers: 1 Trash Collected: 15 Bags Tires: 2
August 1 – September 30	Storm Drain Stenciling	Pollution Prevention	109 inlets stenciled
September 23, 2017	National Public Lands Day Tree and Wildflower Planting	Restoration	Volunteers: 19 Trees Planted: 121 Wildflowers Planted: 225
September 29, 2018	Jeff Todd Way Cleanup	Restoration	Volunteers: 50 Trash Collected: 42 Bags
October 20, 2018	9th Annual STEAM Family Day	Educational Event	Attendees: 400 students Display: *Salt Melt Experiment*
April 7, 2019	The Annual Potomac River Watershed Cleanup	Restoration	Volunteers: 90 Trash Collected: 116 Bags Tires: 13 Miscellaneous: 3
April 10 – 20, 2019	Earth Day Organization Clean-Ups	Restoration	Volunteers: 39 Trash Collected: 55 Bags Tire: 1 Miscellaneous: 2
April 16, 2019	Earth Day Celebration at the Education Outreach Center	Educational Event	Attendees: 110 individuals Displays: *Sediment Disposition vs. Vegetation* *Common Stormwater Pollutants* *Litter and Water Quality*
April 18, 2019	Earth Day Tree Planting	Restoration	Volunteers: 38 Trees Planted: 66
April 25, 2019	MDA Take Your Child to Work Day	Educational Event	Attendees: 40 children Displays: *Sediment Disposition vs. Vegetation* *Common Stormwater Pollutants*
April 27, 2019	Mt. Vernon – Lee Chamber of Commerce Route 1 Clean-up	Restoration	Volunteers: 40 Trash Collected: 30 Bags

Date	Name of Event/Activity	Category from Permit Table 2	Metric
May 22, 2019	DAAF Annual Safety Stand Down	Educational Event	Attendees: 244 Soldiers Displays: *Common Stormwater Pollutants* *Spill Response and Material Handling*
June 12, 2019	Garrison Safety Day 2019	Educational Event	Attendees: 200 Soldiers and Civilians Displays: *Common Stormwater Pollutants* *Spill Response and Material Handling*

iv. Part I.E.2.f (5)

Provide the names of other MS4 permitees with whom collaboration with public involvement activities occurred within the reporting period

Fort Belvoir does not currently collaborate with any other MS4 permitees for public involvement activities held.

v. Review of MCM#2 Program Effectiveness

For the reporting period, July 1, 2018 - June 30, 2019, Fort Belvoir completed the following actions to maintain compliance with permit conditions of both the old and new MS4 General Permit that became effective on November 1, 2018:

- The Program Plan dated October 2018 was based on the old permit requirements and was posted to the website on October 31, 2018
- The new permit and coverage letter were posted on the fort Belvoir web page on December 15, 2019 as required by Part I.E.2.b
- MS4 Program Plan was updated to incorporate requirements listed in Part I.E.2.e of the new permit and posted on the Fort Belvoir website in May 17, 2019,
- MS4 Program Plan was updated to incorporate recommendations for meeting requirements of Part I.E.2.a of the permit from a VADEQ audit conducted on June 6 and June 12, 2019 and posted on the Fort Belvoir website June 25, 2019,
- Conducted 13 public involvement activities as described above from three (3) different categories listed in table 2 as required by Part I.E.2.c of the MS4 General Permit,
- Annual Report will be posted on the Fort Belvoir website on October 1, 2019 as required by Part I.E.2.b of the permit.

All BMPs (BMP 2.1 and 2.2) for the Public Involvement/Participation MCM continue to remain effective and meet permit requirements. The BMPs for this MCM were reviewed

and revised to reflect new permit requirements once the new MS4 permit was issued by VADEQ. The Program Plan dated October 2018 called for the implementation of public participation events and publication of MS4 documents based on requirements for the old permit. The BMPs in the Program Plan for this MCM were reviewed and updated to meet new permit requirements in April of 2019. How Fort Belvoir achieved compliance with the measurable goals for MCM #2 based on the updated Program Plan is discussed below.

BMP 2.1 Maintain a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention

A measurable goal was to maintain a webpage with the following information as required by Part I.E.2.b: Effective MS4 Permit and coverage letter, most current Program Plan, and annual reports for each year of the terms covered by the current permit. This goal was met with website updates occurring on October 31, 2018, December 15, 2018, May 17, 2019, and June 25, 2019.

The measurable goal to update the MS4 Program Plan at a minimum once per reporting period by June 30th every year and post copies of the MS4 Program Plan and annual report on the Fort Belvoir webpage within 30 days of submittal to VADEQ. This goal was met through the plan updates that occurred on October 1, 2018, April 30, 2019 and June 25, 2019. Additionally, the website will be updated once again by October 31, 2019 to include a copy of the 2018-2019 Annual report and an updated Program Plan.

The measurable goal of providing contact information where the public can submit comments on the stormwater program documents including the MS4 Program Plan, TMDL Action Plans, and to report illicit discharges, improper disposal and spills to the MS4, complaints regarding land disturbing activities, and other potential stormwater concerns. This goal was met throughout the reporting cycle with a few issues arising with access to documents occurring between March 25, 2019 and April 11, 2019 due to the U.S. Army Installation Management Command Enterprise Website Migration. All issues were fixed and with the migration DPW-Environmental received additional access to control site content internally. This should allow for easier implementation of future goals listed in the program plan like the implementation of a complaint form/forum for transparent communication with the public for any comments or complaints received.

The MS4 Stormwater group received three (3) complaints, as discussed above, directly from the public which is attributed to contact information being posted on the website, on Facebook posts, or other forms of print media distributed.

BMP 2.2 Public Participation:

A measurable goal was to implement no less than four activities per year from two or more categories listed in Part I.E.2.c of the permit and to involve tenant agencies, schools, community partners, and other members of the public. This goal was exceeded during the reporting period July 1, 2018 - June 30, 2019 with Fort Belvoir participating in Thirteen (13) local activities as described in Table 2 above.

Efforts under this BMP were greatly expanded during the reporting cycle due to a coordinated effort with Public Affairs Office (PAO) to get greater advisement potential by giving DPW Environmental more control over the home page as well as a wider distribution through the development of a general environmental outreach plan with weekly goals for posting of environmental topics on Facebook. Efforts also extended to the Belvoir Eagle to get a monthly slot in the paper to discuss environmental topics. Through better advertisement, all events held saw a larger volume of participation from volunteer groups or attendees than in previous years.

The Stormwater Team has also been building relationships with tenant commands which has made coordinating educational activities easier. The stormwater team has also developed multiple reusable and interactive displays that cover multiple stormwater pollutants and topics. This has allowed the team to cater to different audiences and even to different seasonal topics. Current displays that get rotated use during educational events include: *Sediment Disposition and Erosion vs. Vegetation, Common Stormwater Pollutants, Litter and Water Quality, Spill Response and Material Handling, and Salt Melt Experiment.*

c. MCM#3 – Illicit Discharge Detection and Elimination

i. Part I.E.3.e (1)

Provide 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 cycle.

To the best of our knowledge DPW-Stormwater team has updated the MS4 Map and Information table for all new, removed, and retrofitted structures for projects completed before June 30, 2019. This included updates for additional structures associated with the eight (8) construction projects listed in table 3 below. Additionally, a GIS mapping layer was submitted to VADEQ on June 24, 2019 as required by Part I.E.3.a.(3) where most of these structures were already captured. The information table data for these structures is included in Appendix B.

Table 3: Structures Added to the MS4 Map and Information Table

Project Name	CGP Number	Stormwater Management Facilities Added	Outfalls/Outlets Added
Markham School Playground	VAR10J252	2 x Vegetated Filter Strips with Compost Amendments	N/A Sheet flow
JoAnn Banks CDC	No CGP	3 x Flexstorm Pure Filter (Manufactured Device)	N/A Tied into existing system
Staybridge Suites	VAR101745	1 x Underground Detention System 4 x Bioretention Level 1 3 x Filterra Units (Tree Box Filter)	MS4 Outfall No. 234
USACE RSFO Building 3250	VAR10H826	1 x Dry Swale Level 2 2 x Infiltration Level 2 2 x Bioretention Level 1 1 x Rainwater Harvesting System	MS4 Outfalls No. 7798 7799 Note: located in Non-Regulated area
NCE Recreational Facilities	No CGP	1 x Bioretention Level 2 1 x Grass Channel	N/A Tied into existing system
Regional Stormwater Pond	VAR10J278	1 x Extended Detention Pond Level 2	N/A Tied into existing system
MVP-Site 54E	VAR10J995	1 x Dry Swale Level 1 1 x Detention Pond	N/A Tied into existing system
NCE Parking Lot	VAR10I296	1 x Permeable Pavement Level 1 1 x Detention Pond	N/A Tied into existing system

ii. Part I.E.3.e (2)

Provide the total number of outfalls screened during the reporting period

A total of 54 outfalls were screened during the reporting period July 1, 2018 - June 30, 2019. 50 outfalls were screened under the Outfall Reconnaissance Inventory (ORI) using the permit year one (1) prioritization schedule developed as required by Part I.E.3.c.(2).(a). An additional four (4) outfalls were screened as a part of the periodic inspections associated with ongoing illicit discharge investigations that remained open from the previous reporting period (2017-2018 permit cycle). A summary of results from the screenings are discussed below.

Outfall Reconnaissance Inventory (ORI) Screening

Based on the outfall screenings completed between March 29, 2019 and June 27, 2019 SCF Personnel identified one outfall as being Suspect of an illicit discharge (216), three outfalls that had a Potential for illicit discharges (3638, 6951, and 9000), and the other 46 outfalls were found to be Unlikely to have an illicit discharge. Source tracking and follow-ups were conducted on the four outfalls (216, 3638, 6951, and 9000) as discussed below. A Summary of the ORI findings are presented in Appendix C.

216 (Community Center): Outfall was screened on May 1st at approximately 14:30 and was not found to be flowing at the time but still had a faint petroleum odor and a sheen that could be seen at the outfall and in downstream pools. A sample was collected at a downstream pool and test strips were used to test for pH, Ammonia, and Free/Total Chlorine. Test strips did not show any uncharacteristic values for the parameters sampled (pH = 7, Ammonia/Chlorine = ND). The sheens and odor were still apparent in the sample collected. SCF performed some source tracking for the drainage area associated with the outfall and identified the presence of an oily substance near curb inlet 215 which feeds the outfall. SCF notified the Spill Response Manager and an illicit discharge incident tracking form was completed. Upon a follow up visit to the site in the afternoon it was observed that two trucks from the Aleut were parked directly over the spill with their engines running and the vehicle operators asleep in the cab. The aerials from google maps shows the same vehicles in the same location which may indicate that this is a common practice and has been occurring for some time.

Actions Taken/Recommended: The Illicit Discharge Incident Tracking report was provided to the Aleut contract performance specialist in order to instate a long-term solution. The area has been added to the IDDE windshield inspection route to be visited at least once every 2 months. No additional screening is recommended

3638 (Goethals and Franklin Road): Outfall was screened on May 1st at approximately 10:30 and was not found to be flowing at the time but still had a faint orange color and a sheen that could be seen at the water pooling at the end of the outfall. A sample was collected at the pool and test strips were used to test for pH, Ammonia, and Free/Total Chlorine. Test strips showed an elevated level of ammonia (pH = 7, Ammonia = 2.99 mg/L, Chlorine = ND).

The sheen and discoloration were still apparent in the sample collected. SCF performed some source tracking for the drainage area associated with the outfall and identified an active construction area working under dig permit 19-73 held by Kelvic under a subcontract with American Water for repair of a sanitary sewer pump station and manholes in the area. Multiple site visits took place and SCF Personnel noted that ESC measures on site were not sufficient.

Action Taken/ Recommended: American Water was contacted and a request was put in for them to remove bucket of tar in parking lot and ensure all hazardous materials are stored high, dry, and covered. Move soil stock pile off of silt fence and at least 25 ft. from waterway, repair silt fence, and stabilize new stock pile location. The Wetlands Management Program was contacted, and a variance was granted for this site as it was abutting a wetland but not directly in it. Follow up inspections are recommended after construction is complete and area has been fully stabilized. It is Recommended that this outfall be put on the periodic screening list for the 2019-2020 permit cycle to confirm that ammonia readings were associated with the ongoing project and not a persistent issue.

6951 (NGA Pond 1): Outfall was screened on June 27th at approximately 9:35 and was found to have a slow trickle flow at the time of inspection. A sample was collected from the flow and test strips were used to test for pH, Ammonia, and Free/Total Chlorine. Test strips showed a slightly elevated level of ammonia (pH = 7, Ammonia = 0.5 mg/L, Chlorine = ND) and the presence of suds. SCF performed some source tracking for the drainage area associated with the outfall and could only find an upstream ponding/wetland area that feeds to the outfall. Plan review and interviews were conducted and found that this is a sedimentation basin associated with the NGA North Loop Road project and is referred to as 'Pond 1'. The sedimentation basin was supposed to be converted to an extended detention basin post construction but the conversion never occurred. There are currently funding requests in to support the final conversion to a Chesapeake Bay creditable stormwater management facility.

Actions Taken/Recommended: No sources of illicit discharges were found within the drainage area for the outfall. The suds that were present did not carry odors and are therefore thought to be associated with the natural decay of organic matter from the ponding area upstream which would also explain the slight detection of ammonia. It is recommended that this outfall be put on the periodic screening list for the 2019-2020 permit cycle to confirm the suds were from natural decomposition.

9000 (Stables): Outfall was screened on March 29th at approximately 13:20 and was not found to be flowing at the time but deposits of manure were noted both upstream and downstream of the outfall. No water was present and therefore no sample was taken. SCF performed some source tracking for the drainage area associated with the outfall and identified multiple piles of manure spread across the paddock areas for the horses where two area inlets collect surface flows. SCF Personnel spoke with the unit responsible for

operations on site and reviewed the facility SWPPP (HPF-005) requirements for containment and disposal of manure.

Actions Taken/Recommended: Facility personnel were re-trained in SWPPP requirements and on how and when to request disposal services for the manure that is generated at the site. The frequency of disposal was increased to weekly pickups to ensure that manure is not being collected in piles on site and instead are contained in roll-off containers that can be covered when not in use. The Solid Waste Program Manager was notified of the issue and coordinated with site personnel and the base solid waste contractor, Bates, for the removal of all manure piles. Because the facility has a site specific SWPPP and the outfall is already inspected at least once annually no additional screening is recommended.

Periodic Outfall Monitoring for 2018-2019 Reporting Period

Four outfalls (509, 969, 6244, 1715) from a previous reporting periods had outstanding corrective actions that were followed up on under the periodic screening program during the 2018-2019 reporting year. The History of investigations and actions taken to close the incidents are described below.

One outfall (1715) remained on the Periodic screening list for re-screening during the 2019 – 2020 reporting period. Outfall 1715 was inspected this reporting period and is currently waiting for approval of funding and design submission to disconnect the illicit connection from the MS4. Outfall will be re-screened to confirm that the source has been eliminated after completion of work

MS4 Structure ID 509:

Status: Resolved; Closed May 13, 2019; Flow is determined to be from groundwater seep

- During the 2014 – 2015 reporting year, a flow was noted on October 29, 2014. This is an outfall associated with Building 808, old Dewitt Hospital. Three follow-up source tracking investigations were conducted on November 14, 2014, January 23, 2015 and April 10, 2015. These investigations involved visual evaluation of the storm sewer system and investigation inside Building 808 to determine the source. The investigation inside the building on April 10, 2015 revealed that the discharge appeared to be coming from a sump pump that had a HVAC treatment process attached. No discharge from the pump was occurring due to the power to the building being shut off due to upcoming demolition and because pipes had ruptured in the winter. Confirmation that the illicit discharge was no longer active was conducted at the outfall.
- During the 2015 – 2016 permit year, demolition of Building 808 started and the storm sewer section associated with this outfall is planned to be abandoned in place (filled with concrete). The demolition is now approaching completion.
- This outfall was visited four times during the 2016 – 2017 reporting year where a slow flow and some sediment was observed each time. This was investigated and found to be due to the active demolition project and associated dust control occurring at the area draining to this outfall.

- During the 2017 – 2018 reporting period, demolition of Building 808, Dewitt Hospital was completed on November 6, 2018. Outfall inspections were conducted and a flow was still observed after demolition.
- During the 2018 – 2019 reporting period, two outfall inspections were conducted and a steady flow was still observed. There are no upstream structures. Previous upstream inlet was sealed with concrete casing. After further investigation, it is determined to be a natural seep. A wetlands study of the area concluded that there is groundwater influence in the area. In addition, there was a notable difference between investigation during dry weather and rain inspection. The water level was at least 5 inches higher during the rain inspection indicating a stream is being piped into the stormwater line or there is a groundwater seep.

MS4 Structure ID 1715:

Status: Unresolved; Re-screen outfall once the corrective action is completed.

- During the 2015 – 2016 ORI initial screening was on November 24, 2015 a trickle flow was present. DPW ED and contractor staff conduct a follow-up source investigation on April 4, 2016. It was suspected that there was a potable water leak in the area.
- The outfall was re-screened during the 2016 – 2017 ORI and the flow was found to have increased. An Illicit Discharge investigation began on November 14, 2016 and resulted in a finding that there is a connection from the mechanical room in building 357 which feeds directly into the storm sewer. Plans for Corrective Actions to be taken are currently underway. During the source tracking investigation, it was also noted that this illicit discharge originally daylights at outfall structure ID 1728 which is now covered under the new Industrial Stormwater (ISW) Major Permit under Representative Outfall 021. Future investigations and corrective actions will continue to be tracked under the ISW Permit VA0092771.
- During the 2017 – 2018 reporting period, under the ISW Permit, a work request was submitted and work is scheduled to be investigated and priced by the sanitary sewer contractor during the 2018 – 2019 reporting period to disconnect the illicit connection from the MS4. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.
- During the 2018-2019 report period, inspections were conducted to monitor progress. Funding and plan design submission was submitted by American Water during this reporting period. Currently waiting for approval of submission to disconnect the illicit connection from the MS4. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.

MS4 Structure ID 6244:

Status: Resolved; Closed December 6, 2018; No active flow was observed during periodic monitoring, a cistern overflow pipe is attached to outfall leading to intermittent discharges during rainy season, discharge is not considered to be an illicit discharge concern.

- During the 2014 – 2015 ORI there was an initial discovery of illicit discharge made on October 30, 2014. This is an outfall associated with Fort Belvoir Community Hospital (Buildings 1229, 1230 and 1231). Based on unsuccessful source tracking conducted during 2014 - 2015 ORI and the intermittent nature of this discharge, this outfall was added to the re-screened list.
- During the 2015 – 2016 ORI re-screening, conducted on September 21, 2015, a substantial flow was present and a source investigation was conducted. It was determined that a cistern was being filled with potable water to provide water for the irrigation system when adequate rainwater was not available to fill the cistern. The cistern was not designed with a mechanism to shut off the potable water once the cistern was full. As a result, water was overflowing directly into the pipe that led to the outfall.
- This outfall was re-screened during the 2016-2017 ORI and was found to have no flow. No other signs of illicit discharges are present at this outfall. There may be a concern due to the amount of water that may be discharged when the cistern is filled with potable water.
- During the 2017 – 2018 reporting period, three inspections were conducted with the first inspection being inconclusive because the outfall could not be located by the inspector. For the second and third inspections, no flow was noted. This outfall will continue to be periodically monitored during the 2018 – 2019 reporting period. If the next inspection is conclusive of no flow, then in accordance with Section II.B.3.c.(1)(3) of the MS4 permit, three attempts were made to observe an intermittent discharge with no success in observing a flow and the incident will be closed.
- During the 2018 – 2019 reporting period, two inspections were conducted. During the past three attempts to observe for an intermittent discharge, no flow was seen. No discharge was observed during both inspections in this reporting year. It was verified with maintenance COR that the cistern system is still in use and overflow discharges to Outfall 6244. In conclusion, there are no signs of an illicit discharge.

MS4 Structure ID 7278:

Status: Resolved; Closed December 30, 2018; Outfall was determined to be located in non-regulated area and plan review for Tulley Gate Project shows area inlet from entry gates feeding to outfall and Wetland Delineation review showed high ground water table in area. Both of which would explain heavy flows during rain events.

- In 2015 DPW Remediation Project Manager reported that there was an inquiry from VADEQ about outfalls located near Tully gate. Outfall observed to be flowing. After upgrade of sanitary lift station 1409, outfall flow decreased significantly. This outfall was placed on Periodic Screening list for continued monitoring. It was previously erroneously reported as MS4 structure 2723.
- During the 2015 – 2016 ORI the outfall was screened on September 9 and 21, 2015 and was found to have no signs of illicit discharges. Due to previous reports it was decided to keep the outfall on the rescreen list.

- During the 2016 – 2017 ORI the outfall was once again screened on February 7, 2017 and although water was noticed at the outfall there were no physical indicators of illicit discharges and may have been due to the high-water table in the area.
- Although there are no concerns of illicit discharges from the outfall, investigations will continue to occur in the 2018 – 2019 reporting period to confirm groundwater is the source and identify any direct connections to the outfall as a part of the MS4 Structure database update.
- During the 2018 – 2019 reporting period, an investigation occurred and noted there is still a discharge present. Plan review was conducted for the buildings within the drainage area for the outfall and found that an area inlet is directly connected to the discharge point. During the MS4 Mapping updates completed in December 2019 it was also determined that the outfall and drainage area are outside of the MS4 regulated service area. Wetland delineations were reviewed and confirmed the presence groundwater influence. The incident was closed because it was confirmed to have no illicit discharge concerns.

For the 2019 – 2020 reporting period, periodic screening will continue at one (1) of the outfalls discussed above (1715) until the source of the illicit connection has been rerouted to sanitary sewer.

New Investigations for 2019 – 2020 Reporting Period

There are two new outfalls (3638 and 6951) added to the periodic screening list requiring further investigations for the 2019 – 2020 reporting period based on 2018 – 2019 ORI results. The history of the outfall and anticipated closure requirements are discussed below.

MS4 Structure ID 3638:

Status: Unresolved; Re-screen outfall after construction is completed.

- During the 2018-2019 ORI, outfall did not have any discharge however there was a faint orange tint and sheen in the pooling water located at the end of the outfall. The sample showed elevated level of ammonia (2.99mg/mL). Source tracking was performed for drainage area and identified an active construction area for a sanitary sewer pump station and manhole repair. Outfall will be rescreened after construction is complete and area has been fully stabilized to confirm that ammonia readings were associated with the ongoing project and not a persistent issue.

MS4 Structure ID 6951:

Status: Unresolved; Investigate outfall to confirm suds are from natural decomposition

- During the 2018-2019 reporting period, outfall 6951 contained a trickle flow and presence of suds during the time of inspection. Source tracking was performed for the drainage area but only an upstream ponding/wetland area was found feeding into the outfall. Outfall will be screened to confirm that suds are from natural decomposition, by using a detergent test.

iii. Part I.E.3.e.(3).(a) - (f)

Provide a list of illicit discharges to the MS4, to include spills that reached the MS4 or surface waters. A summary of each investigation conducted by the operator of any suspected illicit discharges including: The source of the discharge, Dates the discharge was observed, the method of discovery, incident resolution, any follow-up investigations, and the date the incident was closed.

A total of 48 new reports of potential illicit discharges were investigated during the reporting period July 1, 2018 - June 30, 2019. Illicit discharges were discovered utilizing the ORI, windshield inspections, compliance investigations, direct reporting, public notification and Army Headquarters audits. In addition, nine (9) other incidents originally reported during previous permit cycles were followed up on during this reporting period. A summary of each investigation including the required details is provided in Appendix D, full incident records for illicit discharges are available upon request. Of the 57 total incidents where investigations occurred during the reporting period all were to be closed during the reporting period except four (4) which will require further actions in the 2019-2020 permit year.

37 (65%) of the investigated discharges were found to be invalid reports (not an illicit discharge) because either the discharge is authorized as per 9VAC25-890-20 D.3 or did not enter the MS4. Corrective actions were still taken for these incidents in the form of spill clean-up, training, investigations or guidance. Zero (0) incidents are still open because corrective action is ongoing.

20 (35%) of the investigated discharges were found to be valid reports (potential or actual illicit discharges) and sixteen (16) were resolved during the reporting period. Monitoring and/or corrective actions are ongoing at the remaining four (4).

During the 2019-2020 permit cycle, one (1) of the ongoing investigations and corrective actions will be monitored under the ISW Major Permit (VA0092771) under RO-005. One (1) incident has ongoing corrective action associated with a MS4 high-priority facility with a SWPPP under HPF-002. The other two (2) incidents are being monitored under the periodic inspection program as discussed above.

iv. Review of MCM#3 Program Effectiveness

For the reporting period, July 1, 2018 - June 30, 2019, Fort Belvoir completed the following actions to maintain compliance with permit conditions of both the old and new MS4 General Permit that became effective on November 1, 2018:

- The *U.S. Army, Fort Belvoir, Virginia Illicit Discharge Detection and Elimination Plan* was reviewed and is currently in the process of being updated to cover new permit requirements and changes brought on by the ongoing effort to update the MS4 Structure completed by December 31, 2018. The 2019 version of the IDDE Program Plan is currently scheduled to be finalized in September 2019.

- ORI was conducted on 50 outfalls prioritized for year 1 screening as required under Part I.E.3.c.(2).(c);
- 57 suspected illicit discharge were investigated and tracked to completion as required under Part I.E.3.c.(2) – (6);
- Weekly windshield inspections were conducted;
- Illicit discharge education was conducted as required under Part I.E.1.b;
- Field verification and updates to the Stormwater Structure database and associated information tables for MS4 outfalls, stormwater management facilities (SMFs) were completed on December 30, 2018 as required by Part I.E.3.a.(1) and (2)
- GIS Layers of all identified MS4 Outfalls and SMFs was submitted to VADEQ on June 24, 2019 in the format requested in a letter dated June 3, 2019 as required by Part I.E.3.a.(3)

All BMPs (BMP 3.1 and 3.3) for the Illicit Discharge Detection and Elimination MCM continue to remain effective and meet permit requirements. The BMPs for this MCM were reviewed and revised to reflect new permit requirements once the new MS4 permit was issued by VADEQ. The Program Plan dated October 2018 called for the update of the GIS layers associated with the MS4 Program, implementation of the 2015 IDDE Plan, and evaluating the system for the potential of combined sewer connections. The BMPs in the Program Plan for this MCM were reviewed and updated to meet new permit requirements in April of 2019. How Fort Belvoir achieved compliance with the measurable goals for MCM #2 based on the updated Program Plan is discussed below.

BMP 3.1 Develop and Maintain an Accurate MS4 Map and Information Table:

The measurable goal to review and update existing MS4 map and associated information table and submit to VADEQ a GIS-compatible shapefile of the MS4 map or a map as a PDF document (Permit#VAR040093, Part I.E.3.a.(3)) no later than July 1, 2019 was met during the reporting period July 1, 2018 - June 30, 2019.

Fort Belvoir led a large effort that was completed on December 30, 2018 to evaluate available GIS data for errors and data gaps, review of project site plans to be incorporated into the database, and field verification of structure locations. A GIS-compatible shapefile and information table was developed to meet all requirements listed in Part I.E.3.a.(1) and (2). The information was then compiled and formatted to meet requirements set forth in a VADEQ letter dated June 3, 2019 and was then submitted to VADEQ on June 24, 2019, ahead of the July 1, 2019 deadline set by Part I.E.3.a.(3).

For the 2019 – 2020 reporting year, an update of the storm sewer system map and outfall information table to include any new outfalls or SMFs constructed or TMDLs approved or both during the immediate reporting period will be completed no later than October 1 and will ensure that all changes/additions in structures occurring due to the eight (8) construction projects shown in Table 3 are captured.

Additionally, information gathered during the ORI screening for the 50 outfalls screened will be used to expand the database to include description data for the outfall and the last screening date and results.

BMP 3.2 Prohibit Unauthorized Non-Stormwater Discharges into the MS4

Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/Unauthorized Discharges into the MS4 and waterways is an existing policy that prohibits unauthorized discharges into the MS4 as per Part I.E.3.b of the permit. The measurable goal to review, revise, and as needed obtain Garrison Commander signature for policy approval when a new Commander takes command was not applicable during this reporting cycle as there was no change on command since the policy was last signed into effect.

In addition to prohibiting discharges, Fort Belvoir's privatized waste-water/water partner, American Water (AW), also has ongoing efforts to discover any connections of the sanitary sewer to the storm sewer system. AW reported that 9,815 linear feet of aged sanitary sewer lines were replaced during the reporting period which should diminish the chances for sanitary sewer overflows. AW also performed dye testing at River Village during spring of 2019 but no cross connections were found.

BMP 3.3 Maintain and Implement Illicit Discharge Detection and Elimination (IDDE) Plan:

The measurable goal to review and revise the IDDE Plan in year one (1) was and implement the plan using the prioritization schedule developed as per Part I.E.3.c.(2).(a) was achieved during the reporting period July 1, 2018 - June 30, 2019.

The IDDE Plan was reviewed for adequacy and a major revision was required once the update for the MS4 stormwater database had been completed to assess validity of outfalls that were identified in the original 2012 inventory. The new MS4 permit, issued November 1, 2018, also had additional requirements that were not captured in the original IDDE Plan. In order to meet all goals, set forth in the Program Plan Fort Belvoir decided to focus efforts associated with the IDDE Plan revisions by priority of topics as listed below:

1. Identify the actual MS4 regulated area based on the 2010 census and not regulated under a separate VPDES Permit
2. Evaluate available GIS and plan data available for the actual regulated area defined in step 1 to build an accurate MS4 Outfall and SMF Map and Information Table
3. Field verify all structures to confirm structure locations and eliminate any internal discharge points that do not meet the regulatory definition of 'Outfall'
4. Use field data and land use data to develop a five (5) year prioritization schedule for the annual ORI screening
5. Update field forms to capture all required data in the new permit
6. Complete Year 1 annual ORI screening for 50 outfalls concurrently with other plan updates not effected by the scheduling

7. Use lessons learned in the field during the year 1 ORI screening to further define the source tracking and incident tracking portion of the plan.

By working on a prioritization basis as shown above Fort Belvoir was able to develop and get portions of the plan approved for use and immediately implemented as the portions got approved, like the prioritization schedule and windshield routes, during the 2018-2019 reporting cycle. The plan is currently scheduled to completed and finalized in its entirety by October 1, 2019.

Implementation of the plan involved completion of an outfall reconnaissance inventory (ORI) of 54 identified outfalls to detect illicit discharges as discussed in Section 2.c.i of this annual report. The U.S. Army, Fort Belvoir, Virginia 2018 - 2019 Outfall Reconnaissance Inventory Final Report is available upon request, A summary of findings for the 50 outfalls screened for the ORI is provided in Appendix C.

Weekly windshield inspections were conducted as developed in the 2019 update to the IDDE during the reporting period. These inspections resulted in 31 deficiencies being noted (fourteen (14) erosion and sediment control (ESC) deficiencies, sixteen (16) good housekeeping deficiencies and one (1) incidents of illegal dumping). All ESC deficiencies were reported to the ESC Inspector for the construction project site and all good housekeeping deficiencies were reported to the facility manager. Illegal dumping incidents were investigated and corrective actions were taken or are underway. These and other illicit discharge incidents were investigated throughout the reporting period, a summary of each incident investigated, results of the investigation, corrective actions taken, and incident closure date are provided in Appendix D.

d. MCM#4 – Construction Site Stormwater Runoff Control

i. Part I.E.4.a

Describe how the construction site stormwater runoff program is implemented

Fort Belvoir is a federal entity that has not developed standards and specifications and does not act Virginia Erosion and Sediment Control Program (VESCP) authority. All Erosion and Sediment Control (ESC) Plans are reviewed and approved by the VADEQ and a Construction General Permit (CGP) in required for any project over an acre. Therefore, Fort Belvoir implements a program as per Permit Part I.E.4.a.(4) and inspects all land disturbing activities of 10,000 square feet or greater. Inspections of smaller sites are done via the windshield inspections discussed under MCM#3. Because no standards and specifications are developed or approved for Fort Belvoir, annual reporting requirements under Part I.E.4.d.(1) are not applicable.

ii. Part I.E.4.d.(2)

Provide the total number of inspections conducted

A total of 506 inspections were conducted during the reporting period July 1, 2018 - June 30, 2019 for regulated land disturbing activities. 350 inspections occurred at sites disturbing one acre and over, 156 inspections occurred at projects disturbing 10,000 square feet to less than an acre. Additionally, 21 inspections were conducted for non-regulated projects disturbing less than 10,000 square feet which included ongoing linear utility projects.

Total number of regulated land-disturbing activities: There were 22 projects which involved 10,000 square feet (sf) and over of land disturbing activity that may have operated under a Construction General Permit (CGP) for the reporting period July 1, 2018 - June 30, 2019. Fourteen (14) projects involved land disturbance of one acre and greater and required VADEQ issuance of a CGP. Eight (8) projects involved land disturbance that was 10,000 sf and under one acre and no CGPs was required for these projects.

Total number of acres disturbed: There were 264.73 acres of total regulated (defined as 10,000 square feet and greater) land disturbance during the reporting period July 1, 2018 - June 30, 2019.

iii. Part I.E.4.d.(3)

Provide the total number and type of enforcement actions implemented

Enforcement actions were initiated on four (4) projects during the reporting period. As a first action, after three repeat violations, a Warning Letter was issued to the Responsible Land Disturber (RLD). A total of 11 Warning Letters were issued.

If the warning letter did not result in the issues being addressed, a Letter of Non-Compliance was sent to the Construction Manager for multiple repeat violations of the minimum standards. No Letters of Non-Compliance were issued.

For the third repeat action, an Email Notice of Non-Compliance was sent to U.S. Army Corps of Engineers (USACE), Resident Engineer for the project under USACE's construction contract oversight. No VADEQ compliance assistance was required.

VADEQ performed two (2) total Level I site inspections on November 15, 2018 for CGP Number VAR10J252 and VAR10J278. No inspection reports with results were provided from VADEQ to Fort Belvoir for these inspections.

iv. Review of MCM#4 Program Effectiveness

For the reporting period, July 1, 2018 - June 30, 2019, Fort Belvoir completed the following actions to maintain compliance with permit conditions of both the old and new MS4 General Permit that became effective on November 1, 2018:

- Erosion and sediment control inspections were conducted on construction projects (land disturbance of 10,000 square feet and greater) upon initial installation of erosion and sediment controls, at least once during every two-week period, within 48 hours of any runoff-producing storm event and upon completion of the project;
- Construction projects disturbing 10,000 square feet or greater of land were required to obtain erosion and sediment control plan approval from VADEQ prior to construction commencement;
- Construction projects disturbing an acre or greater of land were required to obtain erosion and sediment control AND stormwater management plan approval from VADEQ prior to construction commencement; additionally, they were required to obtain a Construction General Permit from VADEQ
- All Fort Belvoir Erosion and Sediment Control Inspectors maintained certificates of competence in accordance with 9VAC25-850-40;
- The *Fort Belvoir Directorate of Public Works, Municipal Separate Storm Sewer System (MS4) Program Bulletin #1: SWM and ESC Design, Review and Plan Approval Procedures and SWM and ESC Compliance Procedures during Construction* was reviewed and revised, as needed, to reflect minor internal process changes.
- A Pre-Construction Erosion and Sediment Control/Stormwater Management training was provided to all construction contractors working under a CGP and smaller projects that require approval of an ESC plan, prior to commencement of construction; and
- Fort Belvoir DPW-ED Stormwater Program conducted project reviews for all proposed land disturbing actions over 2,500 square feet.

All BMPs (BMP 4.1 and 4.3) for the construction site stormwater control MCM continue to remain effective and meet permit requirements. The BMPs for this MCM were reviewed and revised to reflect new permit requirements once the new MS4 permit was issued by VADEQ. The Program Plan called for publishing of MCM#4 Requirements, Preconstruction Training, Inspections of all land disturbing activities over 10,000 square feet, and the implementation of a progressive compliance and enforcement strategy. How Fort Belvoir achieved compliance with the measurable goals for MCM #2 based on the updated Program Plan is discussed below.

BMP 4.1 Communicate the Requirements of the Stormwater Program:

The measurable goals to distribute MS4 permit requirements to designers during initial planning phases of construction projects, conduct pre-construction meetings, and post any revised program bulletins on the website within 30 days of updates was met during the reporting period July 1, 2018 - June 30, 2019.

The Fort Belvoir Directorate of Public Works, Municipal Separate Storm Sewer System (MS4) Program Bulletin #1: *Stormwater Management (SWM) and Erosion and Sediment Control (ESC) Design, Review and Plan Approval Procedures and SWM and ESC Compliance Procedures during Construction* was reviewed and revised, as needed, and was distributed to all project proponents at the concept design phase of the project. A copy of this bulletin is available online on the MS4 Program Webpage under
Technical Bulletins at:
https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division.

DPW ED distributed MS4 Bulletin #1 to designers for all projects with greater than 2,500 square feet of land disturbance. Bulletin #1 provides the Fort Belvoir Home Page website address, as requested, for copies of the MS4 General Permit and Fort Belvoir's Registration Statement, as well as the URL address for Virginia Code for direct access to the MS4 General Permit, the Virginia Stormwater and Erosion & Sediment Control Regulations and other documents that are frequently requested. The Bulletin is distributed during the project design phase and during dig permit review meetings.

MS4 Program staff, certified in ESC and SWM Plan Review, reviewed construction plans for projects disturbing areas of 2,500 square feet and greater to determine if the stormwater design plans comply with the Virginia Erosion and Sediment Control Handbook, Fairfax County Public Facilities Manual, Virginia Stormwater Management Handbook, the Energy Independence and Security Act, Section 438 and Virginia Erosion and Sediment Control and Stormwater Management laws and regulations. A spreadsheet of all construction projects greater than 2,500 square feet under design review and a copy of the written procedure is available upon request.

Fourteen construction projects with stormwater management facilities were inspected periodically during construction to ensure that the new facilities are being constructed in accordance with the approved design plans. Eight (8) projects were completed during the reporting year as shown on Table 3

Pre-construction Training was provided to five (5) project proponents and trained 25 individuals which initiated construction under a CGP during the reporting cycle from July 1, 2018 – June 30, 2019. All other projects were ongoing from the previous cycle and therefore key site personnel had already received training. Smaller projects are instead given copies of Bulletins #2-#4 as applicable. Fort Belvoir currently has the following Bulletins for distribution and posted on the MS4 Program Page:

- MS4 Technical Bulletin #1: *Stormwater Management & Erosion and Sediment Control (ESC) Design, Review, and Plan Approval Procedures for Land Disturbance (Revised July 31, 2019)*
- ESC Technical Bulletin #1: Dewatering Operations (Revised July 31, 2019)
- ESC Technical Bulletin #2: Construction Site Stormwater Pollution Prevention Plan Requirements (Revised July 31, 2019)
- ESC Technical Bulletin #3: ESC Requirements for Utility Installation (Revised July 31, 2019)
- ESC Technical Bulletin #4: Stormwater Pollution Prevention Requirements for Small Projects & Renovation Projects (Revised July 31, 2019)

BMP 4.2 Erosion and Sediment Control (ESC) Site Inspections:

The measurable goal to conduct site inspections for 100% of active construction sites that involve land disturbance of 10,000 square feet or greater was met during the reporting period July 1, 2018 - June 30, 2019.

Erosion and Sediment Control inspections were conducted once every two weeks and within 48 hours of a storm event that produced greater than .5" precipitation on all construction projects involving land disturbance of 10,000 square feet and greater. A total of 506 Erosion and Sediment Control inspections were conducted on Fort Belvoir.

BMP 4.3 Progressive Compliance Enforcement Strategy:

The measurable goal to implement the compliance and enforcement strategy when construction contractors have repeat non-compliance findings on bi-weekly erosion and sediment control inspections on an active construction site was met during the reporting period July 1, 2018 - June 30, 2019.

Enforcement actions were initiated on four (4) projects during the reporting period. A total of 11 warning letters were issued. Warning letters and inspection violations are available upon request.

e. MCM#5 – Post-Construction Stormwater Management

i. Part I.E.5.i.(1). (a) and (b)

Provide the number of privately-owned Stormwater Management Facility (SMF) inspections conducted and the number and type of enforcement actions initiated to ensure long-term maintenance of privately-owned SMFs.

Fort Belvoir has a total of 81 SMFs that are privately-owned and operated by Fort Belvoir Residential Communities LLC (FBRC), under a public-private partnership. The FBRC group is responsible for the operations and maintenance at 15 housing areas, or Villages, across Fort Belvoir. FBRC performs their own inspections and maintenance on SMFs on a monthly rotation and submits summaries to DPW-Environmental, Inspection checklist and maintenance logs are maintained by FBRC and are available upon request.

DPW-Environmental inspects these privately-owned SMFs once every five (5) years to confirm that proper maintenance is being conducted by FBRC. No inspections were conducted by DPW-Environmental at the FBRC Villages this reporting period. Since no inspections were conducted, no enforcement actions were taken.

ii. Part I.E.5.i.(2)

Provide the total number of inspections conducted on stormwater management facilities owned or operated by the permitee (i.e. publicly-owned facilities)

Fort Belvoir currently has 213 publicly owned and operated SMFs within the borders of the Garrison which include SMFs not within the MS4 regulated area. During the July 1, 2018 to June 30, 2019 reporting cycle DPW-Environmental performed inspections of 174 SMFs located within the MS4 regulated service area (based on 2010 census data). Additionally, under a new Base Operations contract 39 additional facilities were inspected by the new contractor. Under the new contract the contractor, Aleut, is responsible for both the inspections and maintenance of all SMFs.

When performing inspections Fort Belvoir currently uses a grading system to rate the functionality of each SMF with an ‘A’ rating meaning it is fully functional and an ‘E’ rating meaning it is Structurally/functionally deficient. Facilities found to be rated at a ‘D’ or ‘E’ require significant maintenance or repairs outside of routine activities (mowing, litter, etc). The inspection results found 18 facilities rated at a ‘D’ and one (1) facility rated at an ‘E’. Work orders for these facilities will be entered and maintenance should occur during the next reporting cycle (2019-2020).

Twenty-six new SMFs, as shown in Table 3, were brought online during the reporting period July 1, 2018 - June 30, 2019. Appendix B contains pertinent data for these facilities.

iii. Part I.E.5.i.(3)

Provide a Description of the significant maintenance, repair, or retrofit activities performed on publicly owned SMFs

No major repairs were completed on publicly owned SMFs during the 2018-2019 permit reporting period.

FBRC reported replacement of 188 Stormfilter cartridges associated with 14 SMFs during the reporting cycle. Additionally, 24 cubic yards of sediment was removed from underground systems at the Villages. This work was completed on December 12, 2018. In March of 2019 a detention pond on Gunston road was de-watered and a low-flow orifice unclogged to restore proper drainage.

iv. Part I.E.5.i.(4)

Provide a confirmation statement the SMF information was submitted through the Virginia Construction General Permit (CGP) database for land disturbing activities for which a VPDES permit for Stormwater Discharges was obtained

All Construction work on Fort Belvoir is completed by outside contractors and it is Fort Belvoir Policy that the contractor performing the work acquire their own VPDES CGP for their construction projects. Therefore, Fort Belvoir does not hold any CGPs. All CGP Holders are required to submit as-built plans when submitting their Notice of Termination Form to VADEQ. As part of those as-builts, a certification statement as follows is required and is signed and sealed by a PE or licensed surveyor:

"I hereby certify that the stormwater management facilities have been constructed in accordance with the approved plan."

Fort Belvoir hereby certifies that to the best of our knowledge, all SMFs have been entered into the CGP database by the contractors holding CGPs under our established Standard Operating Procedures. Fort Belvoir requires that all projects greater than one acre are required to submit for and obtain a Construction General Permit with VADEQ and assume that a CGP cannot be closed until all requirements are met. Please see the Fort Belvoir MS4 Program Bulletin #1, available online here: https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division

v. Part I.E.5.i.(5)

Provide a confirmation statement that best management practices (BMPs) were reported into the VADEQ BMP Warehouse per Part I.E.5.g of the MS4 General Permit

Fort Belvoir confirms that as of October 1, 2019 all BMPs that were brought online during the 2018-2019 reporting period have been entered into the BMP Warehouse. Additionally, Fort Belvoir has added Stream Restoration, Shoreline Management, and Street Sweeping BMPs

into the warehouse to capture the full scope of BMPs used by Fort Belvoir in the management of Stormwater quality.

Fort Belvoir has also been working with William (Bill) Keeling from VADEQ to correct issues with previously uploaded BMP data to ensure that BMPs in the system are attributed to Fort Belvoir. This will be an on-going effort throughout the 2019-2020 permit cycle.

vi. Review of MCM#5 Program Effectiveness

For the reporting period, July 1, 2018 - June 30, 2019, Fort Belvoir completed the following actions to maintain compliance with permit conditions of both the old and new MS4 General Permit that became effective on November 1, 2018:

- Required new construction projects to comply with Virginia Stormwater Management Program quantity and quality regulations;
- Required new construction projects resulting in land disturbance equal to or greater than one (1) acre to obtain VADEQ stormwater management plan approval;
- Conducted periodic stormwater management facility inspections during construction to ensure that a facility was constructed in accordance with the approved plan;
- Field verification and updates to the Stormwater Structure database and associated information tables for MS4 outfalls, stormwater management facilities (SMFs) were completed on December 30, 2018 as required by Part I.E.3.a.(1) and (2)
- Conducted inspections on 214 stormwater management facilities to determine maintenance requirements; and
- Conducted significant maintenance on stormwater management facilities located in the FBRC housing villages.
- Conducted routine maintenance on publicly owned SMFs located throughout Fort Belvoir
- Gained access and reported new BMPs brought online during the reporting period and other BMPs not previously reported into the BMP warehouse database
- Worked with William Keeling from VADEQ to correct issues with previously reported data into the BMP warehouse

All BMPs (BMP 5.1 and 5.2) for the Post-Construction Runoff Control MCM continue to remain effective and meet permit requirements. The BMPs for this MCM were reviewed and revised to reflect new permit requirements once the new MS4 permit was issued by VADEQ. The Program Plan called for maintaining a BMP tracking database, updating the database within 30 days of a facility coming on-line, and reporting of new BMPs to the VADEQ BMP Warehouse, review and revise the BMP inspection and Maintenance plan, and implement a SMF inspection and maintenance procedures. How Fort Belvoir achieved compliance with the measurable goals for MCM #5 based on the updated Program Plan is discussed below.

BMP 5.1 Maintain an Electronic Database or Spreadsheet

The measurable goal to update database of SMFs to include information required by Part I.E.5.d.(1)-(9) and update the database within 30 days of a facility brought online was met for the reporting period July 1, 2018– June 30, 2019.

Field verification and updates to the Stormwater Structure database and associated information tables for stormwater management facilities (SMFs) was completed on December 30, 2018 as required by Part I.E.3.a.(1) and (2) and Part I.E.5.d.(1) – (9). A GIS layer with all pertinent data was created and submitted to VADEQ on June 23, 2019. The database was updated multiple times throughout the reporting period to capture new SMFs as CGPs were closed by contractors. A total of 26 facilities, shown in table 3 and Appendix B were added to the system and assigned new facility numbers during the reporting period.

The measurable goal of electronically reporting SMFs and BMPs implemented between July 1, 2018 and June 30, 2019 using the BMP Warehouse was not applicable this reporting cycle as the October 1 due date falls outside of the reporting period. But Fort Belvoir has been in contact with William (Bill) Keeling from VADEQ to coordinate access to the BMP Warehouse and to correct data from previous reporting periods to eliminate duplicates and remove BMPs that are not owned/operated by Fort Belvoir. Additionally, Fort Belvoir hopes that this effort will result in SMFs being attributed directly to the Garrison's Permit (VAR040093) instead of with the DoD.

BMP 5.2 Conduct Annual Inspections and Maintenance of SMFs

The measurable goal to maintain written inspection and maintenance procedures by reviewing and revising, as necessary, the General Plan for Stormwater Management Facility Inspection and Maintenance (VPDES Permit #VAR040093, Part I.E.5.b.(1)) was meet for the reporting period July 1, 2018 – June 30, 2019.

The General Plan for Inspection and Maintenance was reviewed and found to need some updates due to both new permit requirements as well as a change in contracts used to inspect and maintain the facilities. The plan is currently undergoing updates and is scheduled to be finalized on September 27, 2019. Once finalized, the Plan will be provided to the Base Ops Contractor for implementation. The new plan includes

Inspections and Maintenance during the 2018-2019 reporting period were completed as per the *Fort Belvoir's General Plan for Stormwater Facility Inspection and Maintenance* dated September 2013. Operational inspections required by the plan 175 BMPs were conducted by SCF personnel between June 30, 2018 and July 1, 2019 and reporting procedures were as follows. Operational logs were created for each BMP using the Stormwater BMP Database built by the US Army Corp of Engineers in an Access database. An overall condition rating was generated for each BMP to assist in prioritizing maintenance, a summary of the ratings is provided in Table 4 below.

Table 4: SMF Inspection Rating System

Rating	Status	Description
A	Fully Functional	Structure/facility is not in need of non-routine maintenance and is operating as designed/intended. Continue routine maintenance.
B	Minor Defects	Minor structural or functional defects. Operates to design specifications. Preventative or non-routine maintenance is required.
C	Acceptable	Acceptable/Anticipated Structural and Functional Deterioration. Operating effectively. Preventative or non-routine maintenance required.
D	Major Defects	Major structural or functional defects. Preventative or non-routine maintenance is required.
E	Deficient	Structurally/Functionally Deficient. In need of immediate replacement or rehabilitation.

The majority (156 or 89%) of facilities inspected received a rating of A, B, or C where at most they were due for preventative maintenance. Under the new Fort Belvoir Base Operations Contract, Aleut must perform routine preventative maintenance on facilities that receive a rating of A, B, or C. Aleut was provided the inspection results for all of these facilities to confirm that the routine maintenance was completed or scheduled.

Eighteen (10%) of the facilities inspected received a D rating and were recommended for preventative and/or non-routine maintenance. One tree box filter (MS4 Structure ID 3039) received an E rating due to non-functional planting, facility is full of sediment and damaged grate. Work requests were generated for maintenance on the 19 BMPs that received condition ratings of D or E. This included work such as:

- Removal of sediment/debris and replacement of filter, plants, and mulch for 5 Tree Box Filters
- Removal of woody vegetation, sediment and debris and cleaning of inlet/outlet structures at 13 Stormwater Basins requiring minor maintenance
- Repair of exposed electrical wiring and union joint leak at 1 cistern

Fort Belvoir is also continuously following up on the following requests submitted last permit cycle:

- Removal of sediment and debris at ten (10) Underground Storage Facilities, awaiting funding;
- Performing major repairs to bring two (2) Stormwater Basins back to design capacity and ensure water quality and quantity requirements are met. DPW is currently going through the funding process with USACE.

SMF inspections were also conducted by the Base Ops contractor, Aleut, Between May 23, 2019 and June 11, 2019 focusing the facilities not covered by SCF. Due to wording on the new Base-Ops contract the contractor is responsible for submitting work orders, or DMOs, immediately after an inspection for BMPs if preventative/non-routine maintenance was required. 18 DMOs and 1 PWO were generated. This work included:

- Removal of trash, sediment, and debris and repair eroded and bare areas at 18 stormwater basins.
- Repair erosion around spillway pipe of 1 stormwater basins.

In addition to the BMP inspections conducted by DPW, FBRC contracted Apex Companies, LLC to inspect and maintain SMFs to include detention and/or bio-retention ponds and Underground detention and filtration systems located within housing areas operated by Fort Belvoir Residential Housing Community (FBRC). These were inspected between July and September 2018. Overall the ponds were found to be functioning as designed, although some woody vegetation and minor debris/sediment was noted in a couple of the structures. Some UDS/filters were found to be over sedimented and proposals were submitted to complete the work.

FBRC reported replacement of 188 Stormfilter cartridges associated with 14 SMFs during the reporting cycle. Additionally, 24 cubic yards of sediment was removed from vaults at the Villages. This work was completed on December 12, 2018. One (1) of the ponds on Gunston Road was noted as having drainage issues and so was de-watered and unclogged, the repair was completed in March 2019.

Inspection and maintenance plan, inspection and maintenance logs, and a BMP location maps are available upon request.

f. MCM#6 – Pollution Prevention/Good Housekeeping for Municipal Operators

i. Part I.E.6.q.(1)

Provide a summary of operational procedures developed or modified per Part I.E.6.a during the fiscal year

Written procedures for facilities with the potential to impact stormwater have been incorporated into the Fort Belvoir Master Combined ISW and MS4 SWPPP which became effective on March 31, 2017. The SWPPP covers eight (8) MS4 High Priority Facilities found to have the potential to impact stormwater quality. BMP Factsheets were developed and distributed as a part of the site-specific SWPPP to these eight (8) facilities and are distributed on a as needed basis to other individuals and/or tenant commands. During the 2018-2019 reporting cycle these BMP factsheets were reviewed and updated to have more consolidated information and be easier to read and implement, based on comments received from individuals using the Fact Sheets in the past.

The BMP Fact Sheets make it easy to be distributed to various O&M contractors/tenant commands/privatized housing performing operations and maintenance functions on Fort Belvoir. Each fact sheet contains a description of the activity, guidelines that identify best management practices for stormwater pollution prevention, any maintenance, if required, and spill response procedures. When O&M activities not covered under an existing BMP fact sheet are discovered to be contributing to stormwater pollution, fact sheets are developed for a particular activity. To date fact sheets have been developed that address the following activities:

- Good Housekeeping
- Spill Preparedness & Response
- Secondary Containment
- Above Ground Storage Tanks
- Outdoor Storage and Handling of Materials and Waste
- Outdoor Storage and Handling of Raw Materials and Waste
- Salt Storage and Loading
- Salt Application
- Aircraft, Vehicle, and Equipment Washing and Degreasing Activities
- Wash Rack Usage Guide
- Aircraft, Vehicle and Equipment Fueling
- Aircraft, Vehicle and Equipment Maintenance and Repair Activities
- Waste Handling and Disposal
- Marina Activities
- Fats, Oils and Grease (FOG) Handling
- FOG Management Guide
- Firefighting Activities
- Brine Mixing
- Aircraft Deicing Operations
- HVAC Coil Cleaning & Maintenance
- Dewatering Activities
- PCB Awareness
- Outdoor Pressure Washing
- Blasting & Painting Activities
- Landscaping/Ground Maintenance
- Portable Toilets
- Dumpster Management
- Animal Waste

Written procedures for the application, storage, transport, and disposal of pesticides, herbicides and fertilizers are incorporated in the Integrated Pest Management Plan that is reviewed annually.

ii. Part I.E.6.q.(2)

Provide a summary of new SWPPPs developed in the fiscal year per Part I.E.6.c of the MS4 General Permit

The Fort Belvoir's Combined Master SWPPP for Industrial and MS4 permits was completed and became effective on March 31, 2017. The SWPPP identified eight (8) High Priority Facilities (HPF) that were not covered under a separate permit for stormwater discharges and had the potential for materials or activities to effect stormwater discharges based on conditions found in a 2016 evaluation performed by Army Public Health Command. This included a Motorpool, three laydown areas, a horse stable, a golf cart maintenance facility, the auto skills center and a dining facility. These eight (8) HPFs and four (4) additional facilities were identified for evaluation under Part I.E.6.c due to known grease storage areas being located outside.

The deficiencies found during the evaluations included improper dumpster management, improper material waste management, improper coverage of material storage areas and presence of residual spills/leaks from vehicles and food grease containers. Multiple facilities had deficiencies that could classify these sites as a high priority facility, however it was considered that no discharge from these facilities are likely to enter state waters due to structural or operational practices deployed at the facility. No additional or new facilities were found to require a facility specific SWPPP.

iii. Part I.E.6.q.(3)

Provide a Summary of SWPPPs modified per Part I.E.6.f of the MS4 General Permit or the rationale for de-listing high-priority facilities per Part I.E.6.h of the MS4 General Permit

Overall recommendations from the evaluation discussed above include more frequent facility inspection, additional training, and distribution of informational materials to handout or place around the facility to educate employees of best management practices (BMPs). The Stormwater program already has developed materials for training, outreach, and education on issues that were noted during this evaluation. These materials should be distributed and posted at facilities. Table 5 below summarizes the modifications, if any, made to each HPF SWPPP. The full 2018-2019 HPF Evaluation report is available upon request.

Grease was found to be the most common issue found at the facilities evaluated. Although proper grease management should be enforced for facility personnel all grease containers are handled by outside contractors, who picks up grease from Fort Belvoir and either disposes of it or recycles it off-site. Most of the spills found at facilities looked to have occurred during the pumping of oils/greases by the third-party contractor and could be seen trailing away from the sites. It is recommended that contract language be reviewed and updated in order to ensure accountability of good house-keeping measures by the third-party contractor.

Table 5: HPF SWPPP Modifications, De-listing, and Justification

MS4 HPF ID	Facility Name	SWPPP Required?	SWPPP Development Status	Justification	Recommendation
MS4 HPF-001	Golf Course (Building 2920)	No	Complete	The site is located outside of the regulated MS4 area and therefore no SWPPP is required. The facility also feeds to grass swales allowing for infiltration before entering a storm pond preventing pollutants from directly discharging to waterways.	**Close SWPPP under MS4**; expand ISW SWPPP for the Golf Course
MS4 HPF-002	AAFES (Building 2321)	Yes	Complete	The facility currently has a SWPPP but site personnel have remained inattentive to requirements even after multiple rounds of training.	**Increase Inspection Schedule to Quarterly in the SWPPP; Post Grease Management and Spill Response Guides around Facility**
MS4 HPF-003	DLA Contract Yard	No	Complete	The facility currently has a SWPPP and has remained compliant with its requirements. Due to the lack of construction currently ongoing site has had minimal materials.	**No changes to SWPPP**; maintain as is in order to cover any upcoming projects
MS4 HPF-004	AMSA 91 Motorpool (Building 2292)	No	Complete	The facility currently has a SWPPP and has remained compliant with its requirements. The facility is also fitted with an OWS that feeds to sanitary and all runoff is captured by a storm pond preventing pollutants from directly entering the waterways	**No changes to SWPPP**; add site to ISW permit under Sector P
MS4 HPF-005	Caisson Stables (Building 3045)	Yes	Complete	The facility currently has a SWPPP but was found to store large amounts of manure during the inspection. Site personnel were unaware of the process for manure disposal.	**Increase frequency of manure pickup and removal from the site; Ensure personnel are aware of process for disposal**
MS4 HPF-006	Auto Skills Center (Building 1462)	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements. The facility discharges to a grassed swale preventing pollutants from directly entering waterways	**No changes to SWPPP**
MS4 HPF-007	Theote Road Housing Storage Yard	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	**No changes to SWPPP**
MS4 HPF-008	Housing Annex (Building 1108)	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	**No changes to SWPPP**
Potential MS4 HPF-009	Bowling Alley (Building 1199)	No	Not Required	Although grease is managed outside, there is a dedicated storage location away from any inlets therefore there is a low potential for pollutants to be discharged into waterways	**Continue Training** as prescribed in the Training Plan focused on grease management; **Review grease pick-up contract language**

MS4 HPF ID	Facility Name	SWPPP Required?	SWPPP Development Status	Justification	Recommendation
Potential MS4 HPF-010	Fort Belvoir Community Hospital	No	Not Required	Although grease is managed outside only small spills associated with the unloading of dumpsters were noted at the facility. The facility is also fitted with multiple structural BMPs including sand filters and storm ponds preventing the direct discharge of pollutants to waterways.	**Continue Training** as prescribed in the Training Plan focused on illicit discharges
Potential MS4 HPF-011	Burger King	No	Not Required	All grease is managed internally within the facility and pumped out regularly; the potential for pollutants to enter state waters is extremely low due to the oil/water/grit separator and infiltration basin available at the site. Additionally, any discharge from the infiltration basin enters an earthen channel over 500 ft long before entering any waterway.	**Continue Training** as prescribed in the Training Plan focused on grease management; **Review grease pick-up contract language**
Potential MS4 HPF-012	Community Club (Building 1200)	No	Not Required	Although grease is managed outside, there is a dedicated storage location away from any inlets. Sheet-flow from the area enters a heavily wooded area and has the opportunity to infiltrate prior to reaching any waterway.	**Continue Training** as prescribed in the Training Plan focused on grease management; **Review grease pick-up contract language**

iv. Part I.E.6.q.(4). (a) and (b)

Provide a summary report on new turf and landscape nutrient management plans (NMPs) developed to include: the location and total acreage of each land area and the dates of each approved NMP.

Three hundred eighty-two (382) acres of managed turf were identified for the five-year MS4 permit cycle (1 July 2018 – 30 June 2023) that are required to be addressed by nutrient management plans. Management Plans are valid for three years. Table 6 below shows all current NMPs implemented by Fort Belvoir. Three of the Plans were reviewed and updated during the reporting period.

Table 6: Nutrient Management Plan Summary

APPROVAL DATE	LOCATION	ACREAGE
June 29, 2019	Fort Belvoir Residential Communities Initiative – A (Cedar Grove, Colyer, Gerber, Herryford, Lewis, Vernondale Villages)	61.0 acres
June 29, 2019	Fort Belvoir Residential Communities Initiative – B (Belvoir, Jadwin, Fairfax, Park, Rossell Villages)	54.0 acres
June 29, 2019	Fort Belvoir Golf Club	119.0 acres
March 6, 2017	Missile Defense Agency Headquarters	4.4 acres
March 19, 2017	DLA/DCAA Headquarters Complex	33.0 acres
March 27, 2017	Fort Belvoir Residential Communities Initiative – C (Dogue Creek, Washington, River, Woodlawn Villages)	70.0 acres
July 31, 2017	National Geospatial-Intelligence Agency Campus East	39.0 acres

v. Part I.E.6.q.(5). (a) – (c)

Provide a list of training events conducted in accordance with Part I.E.6. of the MS4 General Permit to include: The Date of training event, number of employees in attendance, and the objective

A total of 512 civilians, military and contractor employees were trained during the reporting period. Table 7 shows a summary of all training events conducted, training materials and sign-in sheets are available upon request. Complete definitions for levels of training may be found in the U.S. Army Garrison Fort Belvoir, Virginia Stormwater Pollution Prevention Training Plan, Revised May 2019. In general, Level 1 – ISW SWPPP; Level 2 – MS4 SWPPP; Level 3 – General Stormwater Pollution Prevention; Level 4 – Illicit Discharge; Level 5 – Pre-Construction; Level 6 – Corrective Action.

Table 7: Training Event Summary

DATE	ORGANIZATION	AUDIENCE	NUMBER OF ATTENDEES	LEVEL OF TRAINING
7/17/2018	Mosby Reserve Center Motor Pool	ISW Permitted Facility	1	1 & 4
7/23/2018	TMP Motor pool	ISW Permitted Facility	1	1 & 4
7/23/2018	Fueling Facility	ISW Permitted Facility	1	1 & 4
7/27/2018	Pest Control - Building 1496	ISW Permitted Facility	2	1 & 4
8/1/2018	South Post Fire Station	ISW Permitted Facility	1	1 & 4
8/2/2018	Pest Control - Building 1496 (new personnel)	ISW Permitted Facility	1	1 & 4
8/3/2018	Mosby Reserve Center Motor Pool (New Personnel)	ISW Permitted Facility	1	1 & 4
8/8/2018	NGA	ISW Permitted Facility	4	1 & 4
8/9/2018	ADF-E	ISW Permitted Facility	2	1 & 4
8/10/2018	LRC Maintenance	ISW Permitted Facility	3	1 & 4
8/13/2018	Bates	ISW Permitted Facility	3	1 & 4
8/20/2018	Meade Road Contractor Lot	ISW Permitted Facility	4	1 & 4
8/29/2018	DPW - Tactical Wash rack	ISW Permitted Facility	2	1 & 4
8/30/2018	Meade Road-Omega Painting	ISW Permitted Facility	1	1 & 4

DATE	ORGANIZATION	AUDIENCE	NUMBER OF ATTENDEES	LEVEL OF TRAINING
8/30/2018	249th Motor pool - Pohick	ISW Permitted Facility	1	1 & 4
9/5/2018	Meade Road Tactical Wash rack	ISW Permitted Facility	1	1 & 4
9/7/2018	AAFES	ISW Permitted Facility	1	1 & 4
9/27/2018	Dogue Creek Watermain Replacement Phase II	RLD	5	4 & 5
10/4/2018	DAAF-OSA-A	ISW Permitted Facility	2	1 & 4
10/10/2018	AMSA 91	MS4 HPF	3	2 & 4
10/10/2018	Onieda - Building 1484	ISW Permitted Facility	6	1 & 4
10/10/2018	Arby's	ISW Permitted Facility	1	1 & 4
10/16/2018	Golf Maintenance	MS4 HPF	1	2 & 4
10/23/2018	Housing Annex	MS4 HPF	6	2 & 4
10/23/2018	Theote Yard	MS4 HPF	6	2 & 4
10/29/2018	DLA Contractor Yard	MS4 HPF	3	2 & 4
10/31/2018	Auto Skills	MS4 HPF	1	2 & 4
11/7/2018	Hospital	MS4 General Awareness	17	3 & 4
11/14/2018	DAAF	ISW Permitted Facility	4	1 & 4
11/14/2018	Building 1949	ISW Permitted Facility	6	1 & 4
11/29/2018	AAFES	MS4 HPF	1	2 & 4
11/29/2018	Stables	MS4 HPF	1	2 & 4
12/12/2018	ALEUT-Roads and Ground	MS4 General Awareness	41	3 & 4
12/13/2018	Hospital	MS4 General Awareness	21	3 & 4
12/18/2018	RCRA	4 Hour RCRA Refresher	90	3
1/10/2019	Hospital	Corrective Action	3	3 & 4
1/16/2019	Dogue Creek Marina	ISW Permitted Facility	2	1 & 4
1/16/2019	91st Cyber Facility	RLD	5	4 & 5
1/23/2019	1301st - Building 341	ISW Permitted Facility	17	1 & 4
1/23/2019	OSAA	ISW Permitted Facility	1	1 & 4
2/5/2019	Building 1446- Pest Control	ISW Permitted Facility	2	1 & 4

DATE	ORGANIZATION	AUDIENCE	NUMBER OF ATTENDEES	LEVEL OF TRAINING
2/12/2019	Building 1442-O&M/Tactical Wash rack	ISW Permitted Facility	2	1 & 4
2/13/2019	ALEUT	ISW Permitted Facility	37	1 & 4
2/13/2019	Hospital	MS4 General Awareness	28	3 & 4
3/1/2019	TMS Custodial Staff	MS4 General Awareness	50	3 & 4
3/6/2019	DAAF Fire Station	ISW Permitted Facility	2	1 & 4
3/13/2019	Pet Grooming & Lodging Facility	Pre-Construction Meeting	6	4 & 5
3/21/2019	Staybridge Hotel	MS4 General Awareness	5	3 & 4
4/4/2019	Bldg. 193 Rehab	Pre-Construction meeting	4	4 & 5
4/4/2019	NVESD (300 Area)	ISW Permitted Facility	3	1 & 4
4/8/2019	911th Engineering Company	ISW Permitted Facility	4	1 & 4
4/15/2019	TMP Yard	ISW Permitted Facility	1	1 & 4
4/15/2019	249th Motor pool - Pohick	ISW Permitted Facility	2	1 & 4
4/18/2019	21st SIG BDE	ISW Permitted Facility	1	1 & 4
4/23/2019	DAAF NVESD	ISW Permitted Facility	2	1 & 4
4/25/2019	DCNG-DAAF	ISW Permitted Facility	11	1 & 4
5/16/2019	DPW-All Hands	Public Works Personnel	50	2 & 4
5/20/2019	Hazwaste 90 Day Facility	ISW Permitted Facility	3	1 & 4
5/21/2019	Bates – Solid Waste Handler	ISW Permitted Facility	2	1 & 4
5/22/2019	Meade Road	ISW Permitted Facility	5	1 & 4
5/22/2019	LRC Maintenance	ISW Permitted Facility	3	1 & 4
5/29/2019	ADF-E	ISW Permitted Facility	2	1 & 4

DATE	ORGANIZATION	AUDIENCE	NUMBER OF ATTENDEES	LEVEL OF TRAINING
6/10/2019	SWMU L-11 & l-45	Pre-Construction Meeting	5	4 & 5
6/18/2019	NGA Main Campus	ISW Permitted Facility	3	1 & 4
6/20/2019	Bldg. 1990 - Golf Course Maintenance Facility	ISW Permitted Facility	2	1 & 4
6/20/2019	Mosby Reserve Center	ISW Permitted Facility	1	1 & 4
6/24/2019	Building 1124 Fueling Facility	ISW Permitted Facility	2	1 & 4
6/25/2019	AAFES - Class 6 Fueling Facility	ISW Permitted Facility	1	1 & 4
Total			**512**	

vi. Review of MCM#5 Program Effectiveness

For the reporting period, July 1, 2018 - June 30, 2019, Fort Belvoir completed the following actions to maintain compliance with permit conditions of both the old and new MS4 General Permit that became effective on November 1, 2018:

- Development and implementation of daily operational procedures (BMP fact sheets) were reviewed, revised, and distributed as necessary;
- BMP Factsheets were updated during the 2018 - 2019 permit year to consolidate information and reformat for easier use and readability. BMP Factsheets were submitted for approval process and distributed to HPF and ISW tenants and on an as needed basis to other individuals
- Updated BMP Factsheets include Above Ground Storage Tanks, Outdoor Storage and Handling of Materials and Waste, Outdoor Storage and Handling of Raw Materials and Waste, Salt Storage and Loading, Salt Application, Aircraft, Vehicle, and Equipment Washing and Degreasing Activities, Aircraft, Vehicle, and Equipment Fueling, Aircraft, Vehicle, and Equipment Maintenance and Repair Activities, Waste Handling and Disposal, Marina Activities, Fats, Oils, and Grease Handling, Firefighting Activities, Brine Mixing, Aircraft Deicing Operations, HVAC Coil and Cleaning Maintenance, Dewatering Activities, PCB Awareness, Outdoor Pressure Washing, Blasting and Painting Activities, Landscaping and Ground Maintenance, Portable Toilets, Dumpster Management, and Animal Waste.
- HPF Evaluations were completed to identify facility changes and upgrades at 12 facilities identified as having the potential to impact stormwater quality.
- Facility-Specific SWPPPs were implemented and revised, as detailed in table 5, for the eight (8) identified High Priority Facilities; No new SWPPPs were developed; One SWPPP facility was de-listed because discharges are permitted under the ISW permit; One facility SWPPP was modified to include a higher inspection frequency

- Nutrient Management Plans were implemented for 382 acres of total managed turf. Three (3) Plans were reviewed and reapproved for implementation.
- Stormwater Pollution Prevention/Illicit Discharge/Good Housekeeping training was conducted; over 500 individuals were trained throughout the reporting period
- The written training plan was updated on May 6, 2019 and implemented throughout the reporting period

All BMPs (BMP 6.1 and 6.4) for the Pollution/Prevention/Good Housekeeping MCM continue to remain effective and meet permit requirements. The BMPs for this MCM were reviewed and revised to reflect new permit requirements once the new MS4 permit was issued by VADEQ. The Program Plan called for maintaining a BMP Fact Sheets and developing new ones within 90 days of discovering a new activity/operation that may affect stormwater quality, completion of annual HPF evaluations to determine need to modify or develop SWPPPs, Maintain NMPs, and to revise and implement the Training Plan. How Fort Belvoir achieved compliance with the measurable goals for MCM #5 based on the updated Program Plan is discussed below.

BMP 6.1 Written Procedures for Operations and Maintenance

The measurable goal to annually review and update BMP Fact Sheets and develop new fact sheets within 90 days of discovering a new activity/operation that may affect stormwater quality update database of SMFs to include information required by Part I.E.6.a was met for the reporting period July 1, 2018– June 30, 2019.

All previously available BMP Fact sheets were reviewed and updated to consolidate information and reformat for easier use and readability. Additionally, due to issues noted during the HPF evaluations, grease management was brought up as a new operation that required additional guidance. Therefore, BMP Fact Sheets focusing on grease were developed during the reporting period to include:

- A Grease Guide Poster to be posted at/near grease collection locations
- A BMP Fact Sheet on Fats, Oils, and Grease Handling Procedures
- A Guide on Cleaning up Residuals from Grease Spills

DPW ED also updated spill response information and posted *Spill Response Procedure* placards in strategic locations which provide information on what to do in case of a spill.

Recycling information is provided in the "The Villages at Fort Belvoir Resident Responsibility Guide" (https://villagesatbelvoir.com/resident-resources/document-center/). In addition, the Fort Belvoir Policy Memorandum #30, Fort Belvoir Qualified Recycling Program is published on the Fort Belvoir website (http://www.belvoir.army.mil/Belvoir/PL/_PDF_TableofContentsPL.html). Fort Belvoir Recycling Center and Fairfax County Lorton Landfill (for Household Hazardous Waste) information is also provided in the brochure *"Protect Our Local Waterways"*.

BMP 6.2 Develop and Implement Stormwater Pollution Prevention Plans:

The measurable goal to re-evaluate high-priority facilities and identify which HPFs have a high potential for discharging pollutants within 12 months of permit coverage (31 October 2019). For all HPFs identified, review existing SWPPPs to determine if all SWPPP requirements specified in Permit #VAR040093, Part I.E.6.d. are addressed, was met for the reporting period July 1, 2018 - June 30, 2019.

Twelve (12) individual facilities were evaluated for their potential to discharge effluents to the MS4 or surface waters, as shown on table 5. The facilities inspected included the eight (8) facilities where a SWPPP was previously developed and four (4) facilities that were noted as having potential outdoor storage of grease. The evaluations resulted in de-listing of one facility that was found to be covered under a separate VPDES Permit and was outside the regulated MS4 service area. Modifications were made to two (2) active facility SWPPPs to increase the frequency of inspections or trash/manure pickup.

BMP 6.3 Develop and Implement Nutrient Management Programs:

The measurable goal to have 100% of all identified managed turf acres covered by nutrient management plans and review and update existing plans every three years was met for the reporting period July 1, 2018 - June 30, 2019.

Fort Belvoir completed all required Nutrient Management Plans ahead of the MS4 General Permit effective date. Currently, 100% (382/382) of the total managed turf is covered by nutrient management plans. Three (3) plans that were previously approved in 2016 were reviewed, updated, and approved for implementation during the reporting cycle, as shown in Table 6.

BMP 6.4 Revise and Implement Written Training Plan:

The measurable goal to revise and implement a written training plan was met for the reporting period July 1, 2018 - June 30, 2019.

The Fort Belvoir Stormwater Pollution Prevention Training Plan was revised in May of 2019 to account for new MS4 General Permit requirements. Training was implemented throughout the permit cycle in accordance to the plan. A total of 512 individuals received training on stormwater pollution prevention (P2) which included sit-down courses covering P2 topics and illicit discharge reporting, on-site one-on-one training for facilities with SWPPPs, Pre-construction training covering ESC requirements, and stormwater general awareness courses aimed at material/waste management personnel.

All industrial hazardous waste generated by garrison tenants (non-family housing residents) is removed utilizing services contracted by Defense Logistics Agency for proper disposal. A Stormwater Pollution Prevention/Illicit Discharge awareness training was given to Hazardous Waste Handlers during their RCRA annual refresher training. Training session was held on December 18, 2018 (4-hour Refresher), for a total of 90 personnel in attendance. This ensures that those most likely to be handling hazardous materials and wastes are aware of water quality issues and preventative measures that can be taken at

their facilities. In addition, Pollution Prevention/Illicit Discharge training is provided as a part of the First Responder Awareness Course, for personnel that working in or around fueling and petroleum distribution facilities.

Oil Spill Response and Recovery Training classes are conducted yearly and the 2018 training class was conducted in July 2018. The 2019 training class is scheduled to be conducted in October 2019.

3. Chesapeake Bay TMDL Information

Fort Belvoir submitted the "*Draft Chesapeake Bay Phase II Total Maximum Daily Load (TMDL) Action Plan"* dated May 2018 to VADEQ on June 1, 2018 in accordance with Section I.B. of the 2013-2018 MS4 General Permit. The plan was released for public comment on May 14, 2018 and comments were accepted for 30 days until June 15, 2018. No comments were received during the public comment period. Fort Belvoir is currently working on final updates to the Plan to be submitted to VADEQ by November 1, 2019 as required by Part II.A.11 of the 2018 – 2023 MS4 General Permit.

a. Part II.A.13.a

Provide a list of BMPs implemented during the reporting period but not reporting period but not reported to the VADEQ BMP Warehouse in accordance with Part I.E.5.g of the MS4 General Permit and the estimated reduction of pollutants of concern achieved by each BMP reported in pounds per year

All BMPs being used for ChesBay credits were reported on the VADEQ BMP Warehouse to include BMPs that were not previously reported. The completed/implemented projects far exceed the L2 reduction requirements for TN, TP and TSS when compared to existing loads based on both 2000 and 2010 Urban Census Data, as detailed in Table 9 below. Therefore, no additional BMPs were necessary to meet pollution load reduction goals. The nine (9) stream and one (1) shoreline restorations and land use change Best Management Practices were completed between 2009 and 2018. The Regional Stormwater Management Basin was completed in July 2018. Street Sweeping is performed monthly on Fort Belvoir and is reported annually to the BMP Warehouse. Table 8 below summarizes the historical BMPs that were added to the BMP Warehouse.

Table 8: Historic BMPs Entered into BMP Warehouse for Credits

BMP Name/Type	Year Completed	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb/yr)
Regional Stormwater Pond Centralized Facility	2018	159.65	12.0	23,852.49
Surveyor Rd Stream Restoration	2009	121.88	110.50	24,586.25
North Area Stream Restoration	2011	9.60	8.70	1,936.64
Meade Stream Restoration	2016	52.13	47.26	10,515.35
AW - 5a and 5b Stream Restoration	2017	10.50	9.52	2,118.20
AW – 7 Stream Restoration	2017	22.13	20.06	4,463.35
AW – 8 Stream Restoration	2017	17.59	15.95	3,547.99

BMP Name/Type	Year Completed	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb/yr)
ADFE Stream Restoration	2018	83.18	75.41	16,779.17
Hospital west Stream Restoration	2010	69.00	62.56	13,919.60
Herryford Stream Restoration	2011	109.13	98.94	22,014.15
Gunston Cove Shoreline Management	2010/2014	8.55	6.04	29,484.00
Land Use Changes	Varies	217.51	15.30	6,866.70
Street Sweeping	Annually	2,068.26	322.33	872,964.85
Total Reductions		**2,949.11**	**804.57**	**1,033,048.74**

Verification of long-term performance for stream restoration and shoreline management projects must occur every 5 years, according to the Chesapeake Bay Program Stream Restoration/Shoreline Management BMP verification Guidance. Verification of older stream restoration and shoreline management projects was completed by Fort Belvoir during this reporting period. Verification of long-term performance was completed for the Surveyor Rd, North Area, Hospital West, and Herryford stream restoration projects and for the 300-area marina shoreline management project, in order to maintain credits.

b. Part II.A.13.b

Provide a statement that credits were acquired, If Credits were acquired during the reporting period to meet all or a portion of the required reductions in Part II.A.3, A.4, or A.5 of the MS4 General Permit

Although no new credits are required for Fort Belvoir to achieve the required reductions by 2027, there were still 26 BMPs, shown in Table 3 brought online during the reporting cycle that would provide additional credits. These have been entered into the VADEQ BMP Warehouse for credit.

c. Part II.A.13.c

Provide the progress, using the final design efficiency of the BMPs, towards meeting the required cumulative reductions for total nitrogen, total phosphorus, and total suspended solids

The Final TMDL Action Plan concluded that approximately 36,400 pounds of Total Nitrogen (TN), 2,050 pounds of Total Phosphorous (TP) and 1.18 million pounds of Total Suspended Solids (TSS) are loaded into the waterways from the Fort Belvoir annually, based on the 2010 Census Urban Area. Fort Belvoir must reduce nutrient loads by approximately 2,500 pounds of TN, 236 pounds of TP and 184,000 pounds of TSS by the end of the third MS4 permit cycle in 2027. Fort Belvoir met pollutant load reductions by street sweeping, stream and shoreline restoration, the installation of a regional stormwater management basin, and land use change

Best Management Practices (BMPs). Fort Belvoir did not calculate the credits earned through the installation of structural Stormwater Management Facilities into the TMDL Action Plan, but does have about 214 SMFs reported within the DEQ BMP Warehouse. Implementation of the TMDL Action Plan, not including SMFs, has resulted in the following cumulative reduction of pollutants of concern in the Potomac River Basin:

Table 9: ChesBay Cumulative Reductions Achieved

Pollutant of Concern	Cumulative Reduction Achieved (lb/yr)	Percentage of L2 Reduction Achieved	
		Based on 2000 Census Data	Based on 2010 Census Data
Total Nitrogen	2,949.08	126%	**118%**
Total Phosphorous	804.57	266%	**341%**
Total Suspended Solids	1,033,048.73	390%	**562%**

d. Part II.A.13.d

Provide a list of BMPs that are planned for implementation during the next reporting period

Table 10 below shows a summary of BMPs that are planned or will be brought online during the next reporting cycle.

Table 10: BMPs Planned for 2019-2020 Reporting Period

Planned BMPs for the 2019-2020 Reporting Period	Approximate BMP Extent
Building 315 Renovation (Dry Swale Lvl 1)	0.29
NMUSA (W6, Infiltration Gallery)	0.90
NPACP (SWM #3, Extended Detention Dry Pond)	1.30
NMUSA (W8, Infiltration Gallery)	1.37
NMUSA (W1, Infiltration Gallery)	1.42
NMUSA (W3, Infiltration Gallery)	1.94
NMUSA (W2, Infiltration Gallery)	2.26
NMUSA (W7, Infiltration Gallery)	2.75
NMUSA (W5, Infiltration Gallery)	2.89
NPACP (SWM #1, Infiltration Basin)	2.94
NMUSA (W4, Infiltration Gallery)	3.27
NMUSA (E1, Infiltration Gallery)	5.27
NPACP (SWM #2, Infiltration Basin)	6.24

The Action Plan also notes that there are eight (8) stream restoration projects planned that would result in additional reductions. Two (2) of the additional stream restorations proposed in the Action Plan (Totten Road and Tracy Loop) have designs approved by VADEQ on September 26, 2017 and are currently awaiting funding. The only BMPs that are required to

be conducted annually to maintain the annual load reduction credit is street sweeping and ensuring that all structural BMPs are maintained.

e. Review of ChesBay Action Plan Effectiveness

An assessment of the appropriateness of the best management practices that were identified in the Chesapeake Bay TMDL Action Plan and progress towards achieving the identified measurable goals are provided below.

BMP CHESBAY.1 Chesapeake Bay TMDL Action Plan Implementation:

The measurable goal to finalize the Phase II Chesbay TMDL Action Plan by October 31, 2019 and implement the action plan in permit years 2 through 5 was met for the reporting period July 1, 2018 - June 30, 2019.

Fort Belvoir has worked towards finalizing the Phase II Chesbay Plan and performed the required 5-year verification of historical stream restoration and shoreline management projects during the reporting cycle. Verification was completed for four (4) historical stream restoration projects and one (1) shoreline management projects.

The measurable goal to conduct a street sweeping program to sweep 2,686 acres per year to meet 2,068.22 lbs/yr of total nitrogen reduction, 322.32 lbs/yr of total phosphorous reduction and 872,964.85 lbs/yr of total suspended solids reduction was exceeded for the reporting period July 1, 2018 - June 30, 2019.

During this reporting period, the Fort Belvoir Operations and Maintenance contractor reported street sweeping of approximately 6,168,127 square yards (1275 acres) of roadway and 6,850,700 square yards (1415 acres) of parking lots monthly. This far exceeded the goal identified in the Chesapeake Bay TMDL Action Plan of sweeping 2,686 acres per year. The current street sweeping program covers about 32,000 acres on an annual basis. Records of monthly street sweeping is available upon request.

4. Local TMDL Information

a. Polychlorinated Biphenyls (PCBs) TMDL

A PCBs TMDL Schedule for Implementation was provided to Virginia Department of Conservation and Recreation (VADCR) in a letter dated May 30, 2012. The Final Fort Belvoir PCB TMDL Action Plan was completed in March 2013. This plan was accepted on December 16, 2015 by Virginia Department of Environmental Quality (VADEQ). The plan was reviewed for adequacy and revisions to address site changes and VADEQ comments were completed in February 2018. An additional three (3) sites were evaluated as a part of the revisions to the Plan. Only one (1) site was determined to have potential impacts to surface waters and will be monitored until Virginia's Water Quality Criteria is met.

The PCB TMDL Action plan also recommended BMPs that can be addressed under the MS4 permit to eliminate and/or minimize discharges of PCBs as well as a sampling plan for outfalls that were identified as requiring monitoring. The complete PCB TMDL Action Plan is incorporated into the MS4 Program Plan by reference and is available upon request.

An assessment of the appropriateness of the best management practices that were identified in the PCB TMDL Action Plan and progress towards achieving the identified measurable goals are as follows.

BMP PCB.1 Distribute Educational Materials about PCBs:

The measurable goal to Annually review and revise, as needed the PCB educational materials and distribute as needed., as needed was met for the reporting period July 1, 2018 - June 30, 2019.

PCB fact sheets, brochures, and training slides have been produced to include basic information on PCBs, their hazards, the identification of PCB containing equipment, and reporting procedures. All educational materials were reviewed but no changes were required during this reporting period.

The fact sheets were distributed within Facility Specific SWPPPs and PCB TMDL training slides were incorporated into all Stormwater SWPPP Training materials. PCB brochures were made available for distribution during the 2018 – 2019 reporting period and were distributed during some educational events as shown in Table 1. DPW continued to try to coordinate with the Hunting Program, to get the brochures distributed to hunters when they acquire their hunting permits, as abandoned PCB transformers in non-frequented areas were identified as the prime source for potential pollutants. This effort will continue in the following reporting cycle.

BMP PCB.2 Implement PCB Sampling Plan:

The measurable goal to implement the sampling plan was met for the reporting period July 1, 2018 - June 30, 2019.

PCB TMDL Action plan went into effect November 1, 2019, the plan included sampling at two outfalls associated with one historic PCB site, referred to as the Warren and Theote road Laydown Area (MP-13). During the reporting period one (1) sample was taken at each of the outfalls,

Warrren-1 and Warren-2, associated with MP-13. Sample results are used as the baseline for comparison to Virginia's Water Quality Criteria (WQC) for tPCBs. Monitoring at the facility will continue until the WQC is met. Table X below, shows the history of sampling at the site.

Table 11: Summary of PCB TMDL Action Plan Sampling

Sample Date	Warren-1 tPCBs (ρg/L)	Warren-2 tPCBs (ρg/L)	WQC for tPCBs (ρg/L)
08/07/17	692	2,468	640
1/24/19	703	10,456	640

In addition to sampling the PCB Action Plan dated 2018 also required the following to be reported in the annual report:

1. Installation of Bollards around the facility until remediation was complete was suggested in the plan:
    - Bollards were not installed at MP-13. The Restoration Program was able to acquire funding to perform a soil removal at the site to excavate and dispose of PCB impacted soils. In March 2019 the site was excavated and the first 6" of soil were completely removed. The site was regraded and stabilized. Confirmation sampling of the soils occurred to confirm that the PCB impacted soils had been removed. The impacted soils were also sampled and then taken off site for proper disposal.
2. PCB Factsheets, brochures, and slides were developed as a part of the Plan for distribution and to be added to training slide
    - Fact Sheets were posted on the Fort Belvoir website, distributed to family housing through coordination with the Villages at Belvoir and provided to Army Morale, Welfare, and Recreation (MWR) facilities who run the hunting program. Factsheets were also included in both MS4 HPF and ISW facility SWPPPs. PCB brochure and factsheet were updated in the Appendix F of PCB TMDL Action Plan. PCB training slides were used to update Training Presentation for levels 1, 2, 3, and 5.
3. Maintaining a GIS PCB Data layer was recommended in the plan
    - The GIS layer was reviewed and updated as needed during the 2018-2019 monitoring period. No reported changes were made to the GIS layer.
4. Sampling at Site MP-13 was recommended in the plan to determine seasonal variation and monitor goals towards meeting WQC for PCBs
    - Sampling occur in August 2017 and January 2018. Another sampling event at MP-13 is scheduled during July 1st – December 31st, 2019 to determine if WQC was met after the soil removal and capping of the site occurred.
5. The Plan called for tracking of progress at other PCB sites currently managed under the Restoration Program
    - Active sites A24a, MP11, MP12, MP13, and MP14 are all under the RCRA facility investigation phase. Soil sampling/field monitoring for A24a occurred on July 24, 2018. Soil sampling/field monitoring for MP11, MP12, MP13, and MP14 occurred on October 4, 2018.

b. Bacteria TMDL for the Lower Accotink Creek

The Bacteria TMDL for the Lower Accotink Creek Watershed was issued in September 2008. The *General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, Permit #VAR040093* issued on July 1, 2013 requires that "TMDL Action Plans for applicable TMDLs approved between July 2008 and June 2013" be updated by 36 months after permit coverage.

A Fort Belvoir Bacteria TMDL Action Plan was developed and submitted on September 30, 2016 for VADEQ review and approval. VADEQ requested additional information on the action plan on November 10, 2016 and received Fort Belvoir's response and updated action plan on December 7, 2016. The Action Plan was submitted in accordance with Section I.B of the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). The Action Plan was approved and became an enforceable part of the Program Plan on December 9, 2016.

The Action Plan also recommended BMPs that can be implemented under the MS4 permit to eliminate and/or minimize discharges of bacteria sources to the Lower Accotink. The focus of the BMPs selected for implementation are operational controls and involve educating Fort Belvoir tenants, partners, employees, and residents in the bacteria water quality issue and what their role is in mitigating and reporting.

An assessment of the appropriateness of the best management practices that were identified in the Bacteria TMDL Action Plan for the Lower Accotink Creek Watershed and progress towards achieving the identified measurable goals are as follows.

BMP BAC.1 Bacteria TMDL Action Plan Revision and Reporting

The measurable goal to continue implementation of the approved 2016 Action Plan and report on implementation of the TMDL Action Plan in the MS4 Annual was met for the reporting period July 1, 2018 - June 30, 2019.

The plan has been implemented throughout the reporting period through the distribution of pet waste brochures ("*Are You Cleaning Up After Your Pet?*"), articles published in the Fort Belvoir *Eagle,* and the development of fact sheets and other guidance on Grease Handling as described under the section covering MCM#6.

In addition, information on reporting Sanitary Sewer Overflows (SSOs), a potential source of bacteria to the lower Accotink, has been incorporated into the Training Plan.

BMP BAC.2 Public Education and Outreach

The measurable goal to incorporate publishing an article annually in the *Fort Belvoir Eagle* that discusses the bacteria water quality issue, sources of bacteria, reporting information and steps that can be taken to reduce bacteria sources into the Public Education and Outreach Plan was met for the reporting period July 1, 2018 - June 30, 2019.

Bacteria has been identified as a pollutant source of concern for the Public Education and Outreach Program. Grease Management Guides were developed and handed to facilities that had

any potential source of fats, oils, and/or grease. An article, "Summer Time Pollution Prevention" was published in the *Fort Belvoir Eagle* on June 6, 2019. In addition, a brochure titled "*Are You Cleaning Up After Your Pet?*" and a Fact Sheet titled "Grease Handling" were handed out during public events such as Earth Day and Pooch Plunge. Tips for limiting bacteria discharges were included in the guide, article, and fact sheet.

The Villages at Fort Belvoir requires all pets to be registered and all pet waste to be collected and removed promptly. This is outlined in "The Villages at Fort Belvoir Resident Responsibility Guide" that all residents receive as part of the moving in process.

The Training Plan identifies six (6) levels of training at different magnitudes of content with Level 1 being the most extensive. TMDL information was presented during the 2018 – 2019 reporting period for Training Levels 1 – 3.

BMP Assessment: BMPS (BMPs BAC.1 – BAC.2) identified in the approved Bacteria TMDL Action Plan continue to remain effective and meet permit requirements. The Bacteria TMDL Action Plan will be reviewed and revised in accordance with the new MS4 permit requirement no later than 18 months after the permit effective date (April 2021) to incorporate new requirements as specified in VPDES Permit #VAR040093, Part II.B.4. Prior to the submittal of this action plan, a public comment period of no less than 15 days will be provided as per Part II.B.7.

5. Changes to the MS4 Program Plan

Part I.D.2.e of the MS4 General Permit requires an evaluation of the MS4 Program Plan Implementation. Each portion of the Program Plan was evaluation individually in Sections 2, 3, and 4 above. Table X shows a summary of changes made to the Program Plan throughout the 2018-2019 reporting period and as a part of the evaluation of its implementation. Below is a succinct list detailing the major changes made to the MS4 Program Plan during the 2018-2019 permit cycle or recommended for the 2019-2020 permit cycle.

Table 12: Changes to the Program Plan as of September 30, 2019

DATE	CHANGE
9 April 2019	Added "Plan Purpose and Revisions" section
9 April 2019	Added "Fort Belvoir Unregulated Areas" to Properties Not Covered Under the Fort Belvoir MS4 Permit
9 April 2019	Moved High Priority Facilities Section discussion to MCM#6, BMP 6.5
9 April 2019	Added DoD and Army applicable stormwater policy memorandums
9 April 2019	Updated Delegation of Signature Authority Section to reflect that there is no current delegation.
23 April 2019	Combined Section 6 HYDROLOGIC UNIT CODES and Section 7 ESTIMATED Drainage Area and Land Use into one Section, Hydrologic Unit Codes, Watersheds and Land Use
24 April 2019	Changed Section 5, Delegation of Authority to Program Administration and created new Organizational Structure section and left delegation of signature authority section.
24 April 2019	Updated Section 9.1 MCM#1 to include current permit language
24 April 2019	Updated Table 9-1 to include Industrial Land Use Category
24 April 2019	Updated BMP 1.1 measureable goals to reflect conditions set forth in the new MS4 permit
24 April 2019	Added information on permit requirements and avenues that have been established for reporting, filing complaints and commenting on documents.
24 April 2019	Updated BMP 2.1 Public Participation to reflect new permit requirements. Changed title to 2.2 Public Involvement Activities
24 April 2019	Changed title of BMP 2.2 Publish the MS4 Program Plan and Annual Reports on the Fort Belvoir website to BMP 2.1 Maintain a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention to reflect current permit language
25 April 2019	Combined BMP 2.2 Public Participation with BMP 2.3 Provide for Public Notification and Receipt of Comments on the MS4 Program Plan
25 April 2019	Updated BMP 3.1 Develop, Implement, Update and Support Geospatial Information (GIS) Layers to reflect permit language and changed title to BMP 3.1 Develop and Maintain an Accurate MS4 Map and Information Table
25 April 2019	Updated BMP 3.2 Implement and Update the U.S. Army Fort Belvoir, Virginia Illicit Discharge Detection and Elimination (IDDE) Plan. Changed title to BMP 3.3 Maintain and Implement U.S. Army, Fort Belvoir Virginia Illicit Discharge Detection and Elimination (IDDE) Plan to order BMPs in the order that they are discussed in the permit.
25 April 2019	Added new BMP 6.1 Written Procedures for Operations and Maintenance Activities

25 April 2019	BMP 6.2 Support Recycling and HAZMAT Programs and BMP 6.3 Maintain Spill Response Vehicle/Trailer were eliminated because they are being implemented under other DPW ED programs and are not a specific requirement found in the MS4 Permit.
25 April 2019	Previous BMP 6.5 Develop and Implement SWPPPs was renumbered to BMP 6.2 High Priority Facility SWPPPs, partial update completed.
26 April 2019	MCM#1 updated to include chloride as a high priority stormwater issue
26 April 2019	MCM#1 Table 9-4 updated Strategy column with language consistent with new permit
26 April 2019	Added BMP 6.1 Written Procedures for Operations and Maintenance Activities
26 April 2019	BMP 6.4 Develop and Implement Nutrient Management Plans renumbered to BMP 6.3 Implement Nutrient Management Plans. Updated to include new permit requirments
26 April 2019	BMP 6.1 Develop and Implement Written Training Plan renumbered to BMP 6.4 Revise and Implement Written Training Plan
26 April 2019	Deleted BMPs 5.4 and BMP 5.5. These BMPs no longer required because all of the Chesapeake Bay TMDL Pollutant Reduction credits have been met through 20 and routine audits of existing stream conditions and restoration of existing watershed are conducted by the Conservation Branch under the wetlands program and Integrated Natural Resource Management Plan.
28 April 2019	PCB TMDL Action Plan Section 8.1 revised with new permit language.
28 April 2019	Bacteria TMDL Action Plan Section 8.2 revised with new permit language.
28 April 2019	BMP BAC.1 revised to include required revision date.
28 April 2019	BMP BAC.2 Incorporate Bacteria TMDL Information into MS4 Program Written Training Plan was deleted because information was incorporated into the MS4 Program Written Training Plan under the last permit cycle.
28 April 2019	BMP BAC.3 Public Education and Outreach renumbered to BMP BAC.2 and updated.
28 April 2019	Deleted BMPs 4.2 Erosion and Sediment Control Plan Review and Approval, BMP 4.3 General VPDES Permit for Discharges of Stormwater from Construction (CGP) Coverage because these are procedures and data is not required in the new MS4 permit to be reported in the MS4 annual report. Moved this information to procedural description of MCM#4 and revised to include additional process information.
28 April 2019	Renumbered BMP 4.4 Erosion and Sediment Control (ESC) Site Inspections to BMP 4.2. Added clarification on conduction of ESC inspections on Saturdays and Sundays and where weather data is obtained to determine when post-storm inspections are required
28 April 2019	Renumbered BMP 4.5 Progressive Compliance and Enforcement Strategy to BMP 4.3.
28 April 2019	BMP 5.1 Stormwater Management Plan Review and Approval deleted and moved to procedures section of MCM#5 because it is procedural and there is no data associated with the procedure that is required in the new MS4 Permit to be reported in the annual report.
28 April 2019	Deleted BMP 5.6 Implement Periodic Inspections and Clean Out of Storm Drains because it is not a specific requirement that is outlined in the MS4 permit.

29 April 2019	BMP 5.2 Maintain the Stormwater Management Facility Tracking System changed to BMP 5.1 Maintain an Electronic Database or Spreadsheet and was updated to reflect new permit requirement as specified in Part I.E.5.d
30 April 2019	BMP Chesbay.1 was revised to account for new permit requirements and the implementation of the Phase II plan
30 April 2019	BMP Chesbay.2 was removed as implementation of a street sweeping program is included in the Phase II Action Plan, therefore by implementing the action plan the street sweeping is inherently being implemented
30 April 2019	BMP PCB.2 was removed because GIS layers for current and former PCB contaminated sites are maintained by the DPW Restoration Group. This was a duplication of efforts.
21 June 2019	Changed language in 5.2 to update that we had received Delegation of Signature Authority Memorandum on May 22, 2019.
21 June 2019	Section 5.1 Narrative and table added to include contractor roles in supporting implementation of the MS4 Program Plan – DEQ Audit recommendation
21 June 2019	Section 8.2 Revised MCM#2 procedures revised to include more details as it relates to procedures for (1) the public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, other potential stormwater pollution concerns; (2) The public to provide input on the permittee's MS4 program plan; (3) Receiving public input or complaints; (4) Responding to public input received on the MS4 program plan or complaints; (5) Maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the permittee's response. – DEQ Audit Recommendation
24 June 2019	Page 30, BMP 2.1 Maintain a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention: It was recommended that a form be developed that would be hosted on the Fort Belvoir MS4 Stormwater page that would allow the public to complete a form that could be directly submitted to the MS4 Program Administrator for attention. The measurable goal was updated to have this completed by permit year 1. It takes some time to coordinate with the Public Affairs Office and build the form and could not be completed within a short time period.
24 June 2019	8.5 Minimum Control Measure #5: Post Construction Runoff Control: Narrative revised to include reference to Interagency Agreements and ground leases and location of documents.
24 June 2019	BMP 6.1 Written Procedures for Operations and Maintenance Activities: narrative revised to include reference to Interagency Agreements and ground leases and location of the documents.
25 June 2019	Update Appendix C with Program Bulletin #1
25 June 2019	Update Appendix D to include a blank ESC/SWM inspection form.
18 September 2019	Updated Section 5.1 page 16, Table 1 MCM#3 to include windshield inspections and reviews and approves requests to discharge
18 September 2019	Updated Section 5.1 page 16, Table 1 MCM#4 to include maintains internal project inventory; review dig permits.
18 September 2019	BMP 3.3 Added windshield inspections to the Illicit Discharge and Elimination Plan section
18 September 2019	Section 5.3 Added The *U.S. Army Fort Belvoir Virginia Illicit Discharge Detection and Elimination Plan September 2019* to the Documents Section

19 Sept 2019	Section 8.1 Table 4: High priority stormwater issue rationale: Added FOG (fats, oils and grease) as a High priority stormwater issue
19 Sept 2019	Section 8.2, BMP 2.2, Table 6, Change anticipated date from September to October for International Coastal Clean-up and removed Public Lands Day
19 Sept 2019	Section 8.2, BMP 2.2, Table 6, added new line for Public Lands Day and put date as TBD
19 Sept 2019	Section 8.7 BMP 6.2, Table 8, Added three columns (2019 Exposure Determination, SWPPP Development Status, 2019- 2020 Recommendations)
19 Sept 2019	BMP 2.1 revised to extend measurable goal to improve reporting communication of the MS4 webpage from 1 year to 2-5 years.
24 Sept 2019	Section 8.7, BMP 6.2, Table 9 updated the Nutrient Management Plan dates from June 29 2016 to June 29 2019.

a. Changes to MCM#1

BMP 1.1 Implement a Public Education and Outreach Plan

No changes have been made to this BMP's methods or evaluation criteria. However, the Public Education and Outreach Plan published in June 2015 as a separate document was incorporated in its entirety into the MS4 Program Plan in Section 10.1.1 of the MS4 Program Plan in October of 2018. This Portion of the Program Plan was revised to meet new permit requirements and add chloride as a high priority issue in April of 2019. It is recommended, based on facility inspections that grease be added as high priority issue for the 2019-2020 permit cycle.

b. Changes to MCM#2:

BMP 2.1 Public Participation

Updated BMP 2.1 Public Participation to reflect new permit requirements. Changed title to 2.2 Public Involvement Activities

BMP 2.2 Publish the MS4 Program Plan and Annual Reports on the Fort Belvoir Website

Changed title of BMP 2.2 Publish the MS4 Program Plan and Annual Reports on the Fort Belvoir website to BMP 2.1 Maintain a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention to reflect current permit language. Combined BMP 2.2 Public Participation with BMP 2.3 Provide for Public Notification and Receipt of Comments on the MS4 Program Plan.

BMP 2.3 Provide for Public Notification and Receipt of Comments on the MS4 Program Plan

This BMP was removed and substantive requirements combined into BMP 2.2 Public Participation

c. Changes to MCM#3:

BMP 3.1 Develop, Implement, Update and Support Geospatial Information System (GIS) layers

Changes were made to accurately reflect permit requirements for maintaining accurate storm sewer system map and information table. Changed title to BMP 3.1 Develop and Maintain an Accurate MS4 Map and Information Table

BMP 3.2 Implement and Update the U.S. Army, Fort Belvoir, Virginia Illicit Discharge Detection and Elimination (IDDE) Plan

Updated BMP 3.2 Implement and Update the U.S. Army Fort Belvoir, Virginia Illicit Discharge Detection and Elimination (IDDE) Plan. Changed title to BMP 3.3 Maintain and Implement U.S. Army, Fort Belvoir Virginia Illicit Discharge Detection and Elimination (IDDE) Plan to order BMPs in the order that they are discussed in the permit.

BMP 3.3 Evaluate Potential Combined Sewer Overflow Connections

This BMP was removed as efforts associated with this were completed, this BMP was replaced with new BMP 3.2 Prohibit Unauthorized Non-stormwater Discharges to the MS4

d. Changes to MCM#4:

BMP 4.1 Establish a Construction Project Review Procedure

BMPs 4.1, 4.2, 4.3, and 4.4 were combined into one BMP (4.1 Communicate the Requirements of the MS4 Program). Language was added to specify which methods of communication are used to communicate requirements (documents and pre-construction meetings).

BMP 4.2 Communicate the Requirements of the Stormwater Program

BMPs 4.1, 4.2, 4.3, and 4.4 were combined into one BMP (4.1 Communicate the Requirements of the MS4 Program). Language was added to specify which methods of communication are used to communicate requirements (documents and pre-construction meetings).

BMP 4.3 Maintain a Tracking System

BMPs 4.1, 4.2, 4.3, and 4.4 were combined into one BMP (4.1 Communicate the Requirements of the MS4 Program). The purpose of this BMP was to define a process for requiring erosion and sediment control plan review and approval. This BMP was combined with 4.1, 4.2, and 4.4 to be more succinct with the administrative process information.

BMP 4.4 Obtain Registration under the General VPDES Permit for Discharges of Stormwater from Construction Activities (CGP) for Construction Projects

BMPs 4.1, 4.2, 4.3, and 4.4 were combined into one BMP (4.1 Communicate the Requirements of the MS4 Program). This BMP was removed and the substantial requirements were integrated into BMP 4.1 to include more succinct administrative process information.

BMP 4.5 Conduct Erosion and Sediment Control Site Inspections.

This BMP was revised to include more succinct administrative process information and renumbered 4.2 Erosion and Sediment Control (ESC) Site Inspections.

BMP 4.6 Progressive Compliance and Enforcement Strategy

This BMP was revised minimally for clarification and renumbered 4.3 Progressive Compliance and Enforcement Strategy.

e. Changes to MCM#5:

BMP 5.1 Implement the Construction Project Review Procedure

BMP 5.1 Stormwater Management Plan Review and Approval deleted and moved to procedures section of MCM#5 because it is procedural and there is no data associated with the procedure that is required in the new MS4 Permit to be reported in the annual report.

BMP 5.2 Maintain the Stormwater Management Facility Tracking System

BMP 5.2 Maintain the Stormwater Management Facility Tracking System changed to BMP 5.1 Maintain an Electronic Database or Spreadsheet and was updated to reflect new permit requirement as specified in Part I.E.5.d.

BMP 5.3 Conduct Periodic Stormwater Management Site Inspections

This BMP was revised to include more succinct administrative process information and renamed BMP 5.3 Conduct Periodic Stormwater Management Construction Site Inspections. Under the "Measureable Goal", the statement "Perform site inspection of 10% of post-construction projects (annually) was deleted because BMPs are inspected annually once they are brought online.

BMP 5.4 Audits of Existing Stream Conditions

Deleted BMPs 5.4 and BMP 5.5. These BMPs no longer required because all of the Chesapeake Bay TMDL Pollutant Reduction credits have been met through 2027 and routine audits of existing stream conditions and restoration of existing watershed are conducted by the Conservation Branch under the wetlands program and Integrated Natural Resource Management Plan.

BMP 5.5 Restoration of Existing Watersheds

Deleted BMPs 5.4 and BMP 5.5. These BMPs no longer required because all of the Chesapeake Bay TMDL Pollutant Reduction credits have been met through 2027 and routine audits of existing stream conditions and restoration of existing watershed are conducted by the Conservation Branch under the wetlands program and Integrated Natural Resource Management Plan.

BMP 5.6 Implement Periodic Inspections and Clean Out of Storm Drains

Deleted BMP 5.6 Implement Periodic Inspections and Clean Out of Storm Drains because it is not a specific requirement that is outlined in the MS4 permit.

BMP 5.7 Ensure Functionality of Existing Storm Water Management Structures

This BMP was renamed BMP 5.2 Conduct Annual Inspections and Maintenance on Stormwater Management Facilities and revised to clarify measurable goals and reporting and recordkeeping requirements.

BMP 5.8 Support Stream Restoration

This BMP has been removed because adequate stream restoration has been completed to meet the Chesapeake Bay TMDL pollutant reduction credits and is no longer required.

f. Changes to MCM#6:

BMP 6.1 Develop and Implement Written Training Plan

Added BMP 6.1 Written Procedures for Operations and Maintenance Activities. The requirements from this BMP was moved to the new BMP 6.4 and titled Revise and Implement Written Training Plan

BMP 6.2 Support Recycling and HAZMAT Programs

"No changes have been made to this BMP's methods or evaluation criteria. "Reporting and Record Keeping" was revised to accurately state what information will be reported in the annual report.

BMP 6.3 Maintain Spill Response Vehicle/Trailer

This BMP was revised to include more accurate information on the Spill Response Plan location, spill response supplies location and training and "Reporting and Record Keeping" was revised to accurately state what information will be reported in the annual report.

BMP 6.4 Develop and Implement Nutrient Management Programs

BMP 6.4 Develop and Implement Nutrient Management Plans renumbered to BMP 6.3 Implement Nutrient Management Plans. Updated to include new permit requirements

BMP 6.5 Develop and Implement Stormwater Pollution Prevention Plans (SWPPP)

Previous BMP 6.5 Develop and Implement SWPPPs was renumbered to BMP 6.2 High Priority Facility SWPPPs.

2019

APPENDIX A

DELEGATION OF SIGNATURE AUTHORITY

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

IMBV-PW

AUG 22 2019

MEMORANDUM FOR Mr. Christopher Landgraf, Acting Director of Public Works, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116

SUBJECT: Delegation of Signature Authority for the Municipal Separate Storm Sewer System (MS4) Virginia Pollutant Discharge Elimination System (VPDES) Permit #VAR040093 for Routine Correspondence

1. You are authorized to sign all routine correspondence related to the Installation's MS4 VPDES Permit #VAR040093, effective upon submission of this delegation memorandum to the Virginia Department of Environmental Quality as required by 9VAC25-870-370.B.3 and 9VAC25-890-40, Section III.K.2.c. All correspondence signed must comply with the provisions of AR 25-50, paragraph 6-2, concerning authority.

2. Fort Belvoir's storm water management program is performed in accordance with the Clean Water Act (33 USC Sec.1251), Virginia Storm Water Management Act (Virginia (VA) Code Sections (Secs) 62.1-44.15:24 et seq.), Virginia Erosion and Sediment Control Law (VA Code Secs 62.1-44.15:51 et seq.), Virginia Storm Water Management Regulations (9VAC25-870-10 et seq.; 9VAC25-880-1 et seq.; 9VAC25-890-1 et seq.) and Virginia Erosion and Sediment Control Regulations (9VAC25-840-10 et seq.; 9VAC25-850-10 et seq.).

3. Routine correspondence includes:

a. Correspondence related to and including submittal of annual reports for the MS4 VPDES Permit.

b. Correspondence related to Requests for Information received from the Commonwealth of Virginia, Department of Environmental Quality (VADEQ).

c. Correspondence related to transmittal of Erosion and Sediment Control and Stormwater Management Plans to VADEQ for review and approval.

d. Land Disturbance Letters issued to construction contractors to signify that construction commencement is approved.

4. Signatory authority for submittal of MS4 VPDES Permit registration statement remains with the Garrison Commander.

5. Submittal of routine correspondence described in 3.a. - d. shall include certification of reports or other information required under 9VAC25-870-370 and 9VAC25-890-40.

6. This delegation may be withdrawn at any time. Notice of withdrawal will be provided to the VADEQ.

7. Authority: AR 25-50 (Preparing and Managing Correspondence), paragraph 6-1.

Michael H. Greenberg
MICHAEL H. GREENBERG
COL, FI
Commanding

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

IMBV-PW

MAY 22 2019

MEMORANDUM FOR Mr. Bill Sanders, Director of Public Works, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116

SUBJECT: Delegation of Signature Authority for the Municipal Separate Storm Sewer System (MS4) Virginia Pollutant Discharge Elimination System (VPDES) Permit #VAR040093 for Routine Correspondence

1. You are authorized to sign all routine correspondence related to the Installation's MS4 VPDES Permit #VAR040093, effective upon submission of this delegation memorandum to the Virginia Department of Environmental Quality as required by 9VAC25-870-370.B.3 and 9VAC25-890-40, Section III.K.2.c. All correspondence signed must comply with the provisions of AR 25-50, paragraph 6-2, concerning authority.

2. Fort Belvoir's storm water management program is performed in accordance with the Clean Water Act (33 USC Sec.1251), Virginia Storm Water Management Act (Virginia (VA) Code Sections (Secs) 62.1-44.15:24 et seq.), Virginia Erosion and Sediment Control Law (VA Code Secs 62.1-44.15:51 et seq.), Virginia Storm Water Management Regulations (9VAC25-870-10 et seq.; 9VAC25-880-1 et seq.; 9VAC25-890-1 et seq.) and Virginia Erosion and Sediment Control Regulations (9VAC25-840-10 et seq.; 9VAC25-850-10 et seq.).

Rescinded as of 1 August 2019

3. Routine correspondence includes:

a. Correspondence related to and including submittal of annual reports for the MS4 VPDES Permit.

b. Correspondence related to Requests for Information received from the Commonwealth of Virginia, Department of Environmental Quality (VADEQ).

c. Correspondence related to transmittal of Erosion and Sediment Control and Stormwater Management Plans to VADEQ for review and approval.

d. Land Disturbance Letters issued to construction contractors to signify that construction commencement is approved.

4. Signatory authority for submittal of MS4 VPDES Permit registration statement remains with the Garrison Commander.

5. Submittal of routine correspondence described in 3.a. - d. shall include certification of reports or other information required under 9VAC25-870-370 and 9VAC25-890-40.

6. This delegation may be withdrawn at any time. Notice of withdrawal will be provided to the VADEQ.

7. Authority: AR 25-50 (Preparing and Managing Correspondence), paragraph 6-1.

Michael H. Greenberg
MICHAEL H. GREENBERG
COL, FI
Commanding

Rescinded as of 17 August 2019

2019

APPENDIX B

MS4 OUTFALLS AND STORMWATER MANAGEMENT FACILITIES BROUGHT ONLINE DURING THE REPORTING PERIOD

PROJECT NAME:	Staybridge Suites (VAR101745)					7/25/2018	
Stormwater Outfall Locations							
Outfall ID Shown in Plan	**Contributing Area (Acres)**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Approximate Latitude & Longitude of Outfall**	**Comments**	**MS4 Structure ID**
15	4.43	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'29.40"N 77°08'17.55"W	Outfall feeds to grouted rip-rap channel and plunge pool, and then into wetlands	234

PROJECT NAME:	USACE RSFO Building 3250 (VAR10H826)					4/23/2018	
Stormwater Outfall Locations							
Outfall ID Shown in Plan	**Contributing Area (Acres)**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Approximate Latitude & Longitude of Outfall**	**Comments**	**MS4 Structure ID**
STM-1	4.63	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'45.81"N 77°10'10.38"W	N/A	7798
STM-17 & STM-18	2.29	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'42.63"N 77°10'11.85"W	This is a singular endwall structure with 2 pipes on it, counted as one outfall, one pipe is 6" in size	7799

PROJECT NAME:	Accessible Playgrounds at Markham School Age Center Building 950 (VAR10J252)			JULY 1, 2018 - JUNE 30, 2019
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Dogue Creek	DISTURBED AREA =	1.8 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	1.8 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
120LF x 60LF of Compost Amended Soils	Sheet Flow to Vegetated Filter Strip w/ Compost Soil Amendments	Water Quality & Quantity	0.95	0.80	0.15	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'00.51"N 77°07'50.60"W	7/2/2018	7804	7/2/2018
50LF x 50LF of Compost Amended Soils	Sheet Flow to Vegetated Filter Strip w/ Compost Soil Amendments	Water Quality & Quantity	0.34	0.29	0.05	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'03.37"N 77°07'52.00"W	7/2/2018	7805	7/2/2018

PROJECT NAME:	Accessible Playgrounds at JoAnn Blanks Child Development Center Building 1207 (No CGP)			JULY 1, 2018 - JUNE 30, 2019
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Dogue Creek	DISTURBED AREA =	0.8 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	0.8 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
GI 1	Flexstorm Pure Filter	Water Quality	0.25	0.10	0.15	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'35.79"N 77°08'24.08"W	7/2/2018	7806	7/2/2018
GI 2	Flexstorm Pure Filter	Water Quality	0.32	0.14	0.18	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'36.36"N 77°08'20.65"W	7/2/2018	7807	7/2/2018
GI 3	Flexstorm Pure Filter	Water Quality	0.23	0.13	0.10	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'38.99"N 77°08'23.17"W	7/2/2018	7808	7/2/2018

PROJECT NAME:	Staybridge Suites (VAR101745)				JULY 1, 2018 - JUNE 30, 2019
DISTURBED AREA (DA) WITHIN WATERSHED(S):					
Watershed 1	Dogue Creek	DISTURBED AREA =	4.99	acres	
Watershed 2		DISTURBED AREA =		acres	
		TOTAL DISTURBED AREA =	4.99	acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
SWM	Underground Detention System	Water Quantity	3.54	1.94	1.60	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'32.73"N 77°08'25.22"W	7/25/2018	7211	7/25/2018
BIO #1	Bioretention Level 1	Water Quality	0.64	0.24	0.40	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'32.16"N 77°08'24.54"W	7/25/2018	7220	7/25/2018
BIO #2	Bioretention Level 1	Water Quality	0.33	0.16	0.17	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'31.71"N 77°08'25.86"W	7/25/2018	7269	7/25/2018
BIO #3	Bioretention Level 1	Water Quality	0.29	0.14	0.15	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'28.59"N 77°08'24.03"W	7/25/2018	6829	7/25/2018
BIO #4	Bioretention Level 1	Water Quality	0.63	0.27	0.36	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'29.13"N 77°08'22.38"W	7/25/2018	6895	7/25/2018
FIL #1	Filterra Unit	Water Quality	0.46	0.25	0.21	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'32.63"N 77°08'26.14"W	7/25/2018	7268	7/25/2018
FIL #2	Filterra Unit	Water Quality	0.24	0.07	0.17	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'30.58"N 77°08'26.73"W	7/25/2018	6790	7/25/2018
FIL #3	Filterra Unit	Water Quality	0.22	0.08	0.14	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'29.40"N 77°08'25.95"W	7/25/2018	6815	7/25/2018

PROJECT NAME:	USACE RSFO Building 3250 (VAR10H826)			JULY 1, 2018 - JUNE 30, 2019
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	10.86 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	10.86 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
BIO SW-1	Dry Swale Level 2	Water Quality	2.24	1.39	0.85	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'44.63"N 77°10'15.64"W	4/23/2018	7590	7/25/2018
INF-1	Infiltration Level 2	Water Quality & Quantity	2.63	1.45	1.18	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'49.80"N 77°10'13.82"W	4/23/2018	7595	7/25/2018
INF-2	Infiltration Level 2	Water Quality & Quantity	1.75	1.45	0.30	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'48.13"N 77°10'12.32"W	4/23/2018	7594	7/25/2018
BIO RET-1	Bioretention Level 1	Water Quality	0.85	0.44	0.41	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'43.66"N 77°10'10.81"W	4/23/2018	7591	7/25/2018
BIO RET-2	Bioretention Level 1	Water Quality	0.81	0.41	0.40	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'46.24"N 77°10'11.33"W	4/23/2018	7593	7/25/2018
RWH	Rainwater Harvesting	Water Quality	0.85	0.00	0.85	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'46.24"N 77°10'12.72"W	7/25/2018	7592	7/25/2018

PROJECT NAME:	NCE Recreational Facilities (No CGP)			JULY 1, 2018 - JUNE 30, 2019
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	0.96 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	0.96 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
BR	Bioretention Level 2	Water Quality & Quantity	0.46	0.16	0.30	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°45'18.55"N 77°11'56.72"W	4/27/2018	205	7/26/2018
GC	Grass Channel	Water Quality	0.31	0.27	0.04	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°45'18.59"N 77°11'55.77"W	4/27/2018	161	7/26/2018

PROJECT NAME:	Regional Stormwater Extended Detention Facility and Stormwater System Improvements (VAR10J278)			JULY 1, 2018 - JUNE 30, 2019
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	4.46 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	4.46 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
ST 14	Extended Detention Pond Level 2	Water Quality & Quantity	59.42	29.44	29.98	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°41'35.60"N 77°08'41.20"W	7/20/2018	7803	11/8/2018

PROJECT NAME:	Project MVP - Expansion Site 54 E (VAR10J995)			JULY 1, 2018 - JUNE 30, 2019
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Dogue Creek	DISTURBED AREA =	2.02 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	2.02 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
1	Dry Swale Level 1	Water Quality	0.56	0.56	0.00	Dogue Creek	South Creek	PL27	38°44'05.010"N 77°09'17.183"W	10/11/2018	7801	5/14/2019
2	Detention Pond	Water Quantity	1.64	1.28	0.36	Dogue Creek	South Creek	PL27	38°44'04.567"N 77°09'16.135"W	10/11/2018	7802	5/14/2019

PROJECT NAME:	NCE Parking Lot (VAR10I296)			JULY 1, 2018 - JUNE 30, 2019
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	11.97 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	11.97 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
SWM-1	Permeable Pavement Level 1	Water Quality & Quantity	6.31	0.00	6.31	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°45'23.19"N 77°11'31.57"W	8/9/2018	7809	6/19/2019
SWM-2	Detention Pond	Water Quantity	9.35	2.87	6.48	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°45'26.22"N 77°11'33.35"W	8/9/2018	7810	6/19/2019

2019

APPENDIX C

MS4 OUTFALLS RECONNAISSANCE INVENTORY RESULTS SUMMARY

2019 Outfall Reconnaissance Inventory Inspections
Municipal Separate Storm Sewer Systems General Permit Number VAR040093

SES Construction and Fuel Services LLC

		Report Location	Screening Event Information											Land Use Information			Outfall Description and Condition												
Overall Characterization	Outfall ID	Report	Inspection Date	Time Military	Investigators	Outside Temperature (F)	Last Rainfall Date	Last Rainfall Time	Hours After Rain	Last Rainfall Amount	Sub-watershed	Latitude	Longitude	Landuse	Location	Origin of Outfall	Outfall Type	Outfall Shape	# of Pipes	Pipe Material	Pipe Dimensions	Open Drainage Material	Channel Depth	Channel Top Width	Channel Bottom Width	In Water?	Sediment?	Water/Sediment Amount
Potential	9000	2019-03-29_Outfall 9000.pdf	29-Mar-19	13:20	William Brown	60	22-Mar-19	16:34	164.8	0.14 in	45	38.421807	-77.113053	Open Space	Horse Stables and Paddocks	Drainage for stables, paddocks, and field to the north east of outfall. Inlet in the southwestern portion of paddock	Closed Pipe	Circular	Single	HDPE	18 in.	-	-	-	-	No Water	No Sediment	-
Potential	6951	2019-06-27_Outfall 6951.pdf	27-Jun-19	9:35	William Brown, Ashley Clark	83	25-Jun-19	1:00	56.6	0.15 in	53	38.754473	-77.202088	Institutional	North Loop Road	Discharges for Barta Rd. on the north side of FBNA main building via BMP 6954.	Closed Pipe	Circular	Single	RCP	36 in	-	-	-	-	Partial Water	No Sediment	8 in. water
Potential	3638	2019-05-01_Outfall 3638.pdf	1-May-19	10:40	William Brown, Ashley Clark	70	26-Apr-19	18:00	112.7	0.05 in	30	38.736032	-77.144236	Institutional	Goethals Parking Areas	drains from 2 curb inlets on franklin Rd. and 6 area inlets in the parking lots on 30th Engineer Rd.	Closed Pipe	Circular	Single	RCP	24 in	-	-	-	-	Partial Water	Partial Sediment	11 in. sediment 4 in. water
Suspect	216	2019-04-08_Outfall 216.pdf	8-Apr-19	14:30	William Brown	77	6-Apr-19	8:00	54.5	0.09 in	2	38.7072	-77.1387	Commercial	Parking Area	Parking lot between Staybridge Suites and community center.	Closed Pipe	Circular	Single	RCP, HDPE	18 in	-	-	-	-	No Water	No Sediment	-
Unlikely	2025	2019-05-01_Outfall 2025.pdf	1-May-19	14:00	William Brown, Ashley Clark	65	26-Apr-19	18:00	116.0	0.05 in	3	38.6958	-77.1473	Industrial	Theote Laydown Lot	Outfall located within the fence area of the Theote Road Laydown Lot	Closed Pipe	Circular	Unknown	RCP	Unknown	-	-	-	-	No Water	Full Sediment	Completely buried
Unlikely	3291	2019-04-30_Outfall 3291.pdf	30-Apr-19	10:20	William Brown, Ashley Clark	67	26-Apr-19	18:00	88.3	0.05 in	30	38.712792	-77.160309	Troop	913th Headquarters	drainage from building 2476 and surrounding fields.	Closed Pipe	Unknown	Single	RCP	Unknown	-	-	-	-	No Water	Full Sediment	Completely buried
Unlikely	3822	2019_04_18_Outfall 3822.pdf	18-Apr-19	14:17	Ashley Clark and William Brown	73	15-Apr-19	8:54	77.4	0.21 in	30	38.7204772	-77.1492595	Commercial	Gorgas Road	Outfall 3822 collects stormwater from curb inlets along Gorgas Rd.	Closed Pipe	Circular	Single	RCP	24 in	-	-	-	-	No Water	No Sediment	-
Unlikely	3867	2019_04_18_Outfall 3867.pdf	18-Apr-19	13:46	Ashley Clark and William Brown	64	15-Apr-19	8:54	76.9	0.21 in	30	38.7197836	-77.1478192	Commercial	Self Service Car Wash	Outfall 3867 connects and drains stormwater from area inlets around the car wash and curb inlets along Gorgas Rd. Water from the car washing station is collected via drains attached to the sanitary sewer.	Closed Pipe	Circular	Single	RCP	15 in	-	-	-	-	No Water	Partial Sediment	3 in. Sediment
Unlikely	5373	2019-04-25_Outfall 5373.pdf	25-Apr-19	10:20	William Brown	65	19-Apr-19	22:15	132.1	0.32 in	33	38.736273	-77.130294	Suburban Residential	Woodlawn Village	Drainage for part of Plantation Dr. north of Ice House Ct. and south of Mansion Ct.	Closed Pipe	Circular	Single	PVC	12 in	-	-	-	-	No Water	Partial Sediment	2 in. sediment
Unlikely	7208	2019-06-27_Outfall 7208.pdf	27-Jun-19	8:35	William Brown, Ashley Clark	83	25-Jun-19	1:00	55.6	0.15 in	53	38.758189	-77.1912	Industrial, Institutional	North Area Fire Department	discharge from BMP 7230 via riser 7209.	Closed Pipe, Open Drainage	Circular, Parabolic	Single	RCP	18 in	Riprap	-	-	-	No Water	No Sediment	-
Unlikely	3290	2019-04-30_Outfall 3290.pdf	30-Apr-19	10:35	William Brown, Ashley Clark	75	26-Apr-19	18:00	88.6	0.05 in	30	38.711773	-77.160489	Troop	913th Headquarters	Drainage for motorpool and surrounding fields south of building 2476.	Closed Pipe	Unknown	Single	RCP	Unknown	-	-	-	-	No Water	Full Sediment	Completely buried
Unlikely	1526	2019-05-01_Outfall 1526.pdf	1-May-19	13:42	William Brown, Ashley Clark	70	26-Apr-19	18:00	115.7	0.05 in	5	38.69023	-77.148734	Industrial	Tracy Loop	Outfall provides drainage for BMP 1528, which collects water from the facilities and warehouses on Tracy loop	Closed Pipe	Circular	Single	CMP	36 in	-	-	-	-	No Water	No Sediment	-
Unlikely	2065	2019-05-09_Outfall 2065.pdf	1-May-19	13:52	William Brown, Ashley Clark	60	28-Apr-19	2:00	83.9	0.06 in	3	38.699927	-77.150486	Institutional	Aleut storage lot in 3400 area	Drainage for pipe inlet 2066, which provides drainage for the Aleute lot and the parking lot for building 1436.	Closed Pipe	Circular	Single	RCP	22 in	-	-	-	-	No Water	Partial Sediment	1 in. sediment
Unlikely	2067	2019-04-29_Outfall 2067.pdf	29-Apr-19	13:55	William Brown, Ashley Clark	60	26-Apr-19	18:00	67.9	0.05 in	3	38.700154	-77.149974	Institutional	Building 1434	Outfall located off of Sharon Ln Road Northeast of the Aluet laydown lot. Outfall collects runoff and drains buildings located on Sharon Ln Road. Located approximately 20 feet into Wooded area.	Closed Pipe	Circular	Single	RCP	15 in	-	-	-	-	No Water	Partial Sediment	4 in. sediment
Unlikely	2071	2019-04-29_Outfall 2071.pdf	29-Apr-19	14:10	William Brown, Ashley Clark	60	26-Apr-19	18:00	68.2	0.05 in	3	38.700484	-77.148769	Institutional	Building 1422	outfall is fed by area inlets 2072 and 2074	Closed Pipe	Circular	Single	RCP	30 in	-	-	-	-	No Water	No Sediment	-
Unlikely	2522	2019-05-29_Outfall 2522.pdf	29-May-19	11:05	William Brown, Ashley Clark, Camila Dias	85	26-May-19	22:30	60.6	1.22 in	33	38.734482	-77.153692	Industrial, Institutional	ADFE	Located on the South side of ADF-E off of Williams Wood Road. Outfall drains BMP 2528 that collects run off from uphill generator farm.	Open Drainage	Parabolic	-	-	-	Concrete	6 in	48 in	0 in	No Water	No Sediment	-
Unlikely	2533	2019-04-23_Outfall 2533.pdf	23-Apr-19	10:00	William Brown, Ashley Clark	75	19-Apr-19	22:15	83.7	0.32 in	30	38.680999	-77.142215	Commercial	AAFES Loading Dock	Outfall is drainage for BMP 2548, which services AAFES north parking lot. As well as drainage for BMP 2535 and 2548 which services the loading dock for AAFES.	Closed Pipe	Circular	Double	HDPE	15 in, 15 in	-	-	-	-	No Water	No Sediment	-
Unlikely	2992	2019-04-23_Outfall 2992.pdf	23-Apr-19	9:45	William Brown, Ashley Clark	75	19-Apr-19	22:15	83.5	0.32 in	32	38.680999	-77.142215	Commercial	Area between PX and Commissary	Area inlet 1515 in the AAFES facility.	Closed Pipe	Circular	Single	Steel	18 in	-	-	-	-	No Water	No Sediment	-
Unlikely	3597	2019-05-01_Outfall 3597.pdf	1-May-19	11:15	William Brown, Ashley Clark	70	26-Apr-19	18:00	113.3	0.05 in	30	38.736307	-77.34636	Institutional	Building 1809	Drainage for building 1809 and the surrounding lawn.	Open Drainage	-	-	-	-	Earthen	12 in	3 ft	0 in	No Water	No Sediment	-
Unlikely	3608	2019-05-01_Outfall 3608.pdf	1-May-19	10:20	William Brown, Ashley Clark	70	26-Apr-19	18:00	112.3	0.05 in	30	38.735232	-77.145963	Institutional	Building 1810	Drainage for several area inlets located along Gothels Rd. and around building 1810	Closed Pipe	Circular	Double	RCP	36 in, 36 in	-	-	-	-	No Water	No Sediment	-
Unlikely	3776	2019-04-23_Outfall 3776.pdf	23-Apr-19	10:44	William Brown, Ashley Clark	75	19-Apr-19	22:15	84.5	0.32 in	32	38.722075	-77.152342	Commercial	Comissary West and Southwest Parking Areas	Drainage for BMP 3778, which collects stormwater from the southwest and west parking lot at the commissary.	Closed Pipe	Circular	Single	Steel	12 in	Riprap	-	-	-	No Water	No Sediment	-
Unlikely	3818	2019_04_18_Outfall 3818.pdf	18-Apr-19	14:12	Ashley Clark and William Brown	73	15-Apr-19	8:54	77.3	0.21 in	30	38.720374	-77.148942	Commercial	Old Commissary Parking Area	Outfall 3818 collects stormwater runoff from curb cuts along Gorgas Rd and from within a BMP across Gorgas Road	Closed Pipe, Open Drainage	Circular, Parabolic	Single	RCP	18 in	Riprap	-	-	-	No Water	No Sediment	-
Unlikely	3819	2019_04_18_Outfall 3819.pdf	18-Apr-19	14:09	Ashley Clark and William Brown	73	15-Apr-19	8:54	77.3	0.21 in	30	38.7203956	-77.148892	Commercial	Gorgas Road	Outfall 3819 collects stormwater runoff from curb inlets along Gorgas Rd.	Closed Pipe, Open Drainage	Circular, Trapezoid	Single	RCP	15 in	Concrete	18 in	36 in	20 in	No Water	No Sediment	-
Unlikely	4208	2019-04-25_Outfall 4208.pdf	25-Apr-19	11:45	William Brown	68	19-Apr-19	22:15	133.5	0.32 in	31	38.736307	-77.139495	Suburban Residential	Lewis Village	Drainage from curb inlets on Duane Rd. and hydrodynamic 4264.	Closed Pipe	Circular	Single	RCP	36 in	-	-	-	-	No Water	Partial Sediment	12 in. sediment
Unlikely	4212	2019-04-25_Outfall 4212.pdf	25-Apr-19	11:15	William Brown	70	19-Apr-19	22:15	133.0	0.32 in	31	38.717129	-77.139178	Suburban Residential	Lewis Village	outfall services area inlets in Lewis Village and curb inlets on Duane Rd.	Closed Pipe	Circular	Single	Steel	21.5 in	-	-	-	-	No Water	No Sediment	-
Unlikely	4214	2019-04-25_Outfall 4214.pdf	25-Apr-19	11:00	William Brown	68	19-Apr-19	22:15	132.8	0.32 in	31	38.717727	-77.138855	Suburban Residential	Lewis Village	Drainage for Lewis Park, and curb inlets feeding to hydrodynamic 4225.	Closed Pipe	Circular	Single	RCP	15 in	-	-	-	-	No Water	No Sediment	-
Unlikely	4215	2019-04-25_Outfall 4215.pdf	25-Apr-19	10:45	William Brown	68	19-Apr-19	22:15	132.5	0.32 in	31	38.718599	-77.138583	Suburban Residential	Lewis Village	Drainage for BMP 4061 which collects stormwater from the central area of Lewis Village.	Closed Pipe	Circular	Single	RCP	42 in	-	-	-	-	No Water	No Sediment	-
Unlikely	4217	2019-04-23_Outfall 4217.pdf	23-Apr-19	11:04	William Brown, Ashley Clark	75	19-Apr-19	22:15	84.8	0.32 in	31	38.720305	-77.139718	Suburban Residential	Lewis Village and North Post CDC	The outfall drains from BMP 4064	Closed Pipe	Circular	Single	RCP	24 in	-	-	-	-	No Water	No Sediment	-

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		Flow Characterization													Physical Indicators at Flowing Outfalls									Physical Indicators at Flowing and Non-Flowing Outfalls			
Overall Characterization	Outfall ID	Flow Characterization	Sample Taken From	Volume	Time to fill	Flow depth	Flow Distance (in)	Flow Time (sec)	Flow width	Flow Rate (cfs)	pH	Ammonia mg/L	Free Cl (mg/L)	Total Cl	Physical Indicators (Flowing)	Odor	Odor Severity	Color	Color Severity	Turbidity	Floatables	Floatables Severity	Comments for Flowing Outfalls	Physical Indicators (Non-Flowing)	Indicator Description	Indicator Comments	Notes
Potential	9000	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Deposits	Other	Manure surrounding the outfall may be a large source of Bacteria	This outfall was surrounded by manure.
Potential	6951	Trickle Flow	Flow	250 ml.	8 sec.	-	-	-	-	0.00109	7	0.5	0	0	Floatables	-	-	-	-	-	Suds	Slight	Suds noted in pool and flow, possibly due to turbulent flow or decay of organic matter	Outfall Damage, Poor Pool Quality	Spalling, Cracking, or Chipping; Suds	Cracks between pipe and headwall, suds potentially due to turbulent flows	Outfall is hard to locate. Found covered by bushes and trees. recommend clearing trees and bushes for access. Cracks were noted between pipe and headwall.
Potential	3638	No Flow	Pool	-	-	-	-	-	-	-	7	2.99	0	0	No Indicators	-	-	-	-	-	-	-	-	Poor Pool Quality	Sheen, Color	Sample from pool showed a faint orange color and had a sheen. Noted that an AW project was occuring next to outfall.	Outfall was partially full of sediment and water. A distinct sheen was observed on the surface of the pooling water at outfall discharge point. This area is an active construction area that started construction working under dig permit 19-73 held by Kelvic under a subcontract with American Water for repair of a sanitary sewer pump station and manholes in the area. Multiple site visits took place and SCF Personnel noted that ESC measures on site were not sufficient. Follow up inspections are to take place after construction is complete and area is stabilized.
Suspect	216	No Flow	Downstream Pool	-	-	-	-	-	-	-	7	0	0	0	Odor, Floatables	Petroleum Smell	Faint	-	-	Clear	Petrolium Sheen	Severe, Origin Clear	Source Tracking: Aluet trucks idling during personnel breaks and leaking material	Poor Pool Quality	Sheen	Oil sheen present in all pools directly below outfall	During inspection at 14:30 an was oil spill present outside curb inlet 215 which feeds into outfall 216 was found. The oil spill discharge to state waters via curb inlet 215. The spill team was notified and an Illicit discharge incident tracking form was completed. Upon return for inspection the same day at 0400 two Aleut trucks were idling over spill. The vehicles are the source of oil. Aleut POC has been contacted and notified of the incident. Follow up investigations are to take place throughout the next year.
Unlikely	2025	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Blockage	Sediment	Outfall is completely buried	Only the top of the headwall is visible, pipes are completely buried. May be a double piped outfall based on the 'L' shaped headwall
Unlikely	3291	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Blockage	Sediment, Tree Litter	Outfall is completely buried	Outfall was completely buried. Only sign of outfall was the exposed headwall. Outfall requires clearing and clean out of area for proper functioning. Receiving channel is in good shape and had no signs of pollutants.
Unlikely	3822	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Blockage	Sediment	Sediment blocking outflow and covering what looked to be a riprap channel	The outfall pipe is a RCP with a flared end section. The purpose of the flared end section is to mimic the natural structure of the outfall channel. The collecting channel is washed out. The outfall discharges stormwater to an open earthen area that appears to previously been a rip rap channel. Outfall area has collected a large amount of debris.
Unlikely	3867	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Blockage	Sediment	Sediment blocking outflow and covering what looked to be a riprap channel	Stormwater discharges via earthen channel that appears to be a washed out rip rap channel. Rip rap has been washed to the sides and covered by leaves/debris. The channel discharges to a stream located south of the outfall. The outfall is partially blocked by sediment. The area surrounding the stream is fully vegetated. Outfall was dry.
Unlikely	5373	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Blockage	Tree Litter	Leaf litter blocking flow and causing ponding at the point of discharge	Outfall is slightly blocked by sediment. Some pooling at outfall discharge point. Possibly regrade to allow area to flow better.
Unlikely	7208	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Blockage	Other	Tree growing in riprap at discharge point, blocking outflow	Outfall looks good, Channel in good shape, BMP fully vegetated.
Unlikely	3290	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Blockage	Sediment, Tree Litter	Outfall is completely buried	Outfall pipe was completely buried, only top of headwall was exposed. Outfall needs clearing and re-stabilization for proper functioning. Receiving channel is in good shape, no signs of pollutants. No known upstream inlets.
Unlikely	1526	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall is in good condition, Rip Rap channel is washed out approximately ten feet down stream, area is experiencing some erosion.
Unlikely	2065	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall was in good condition and free of trash. Some sediment accumulation in pipe. No sign of any pollutants at outfall.
Unlikely	2067	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall is partially buried, half of the outfall pipe and headwall area exposed. Outfall pipe is approximately 50% full of sediment. Area requires clearing for proper drainage. Trash has accumulated around area, possibly blown from uphill road where the buildings area located.
Unlikely	2071	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall is in good condition and clear. Large amount of leaf and tree liter accumulating uphill of outfall.
Unlikely	2522	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	No access due to internal security at ADFE, accessed at the end of receiving channel at the fenceline prior to the point of discharge to the stream. Secure area, no photos taken.
Unlikely	2533	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	This outfall is two pipes that drain to a gabion basket as the discharge point.
Unlikely	2992	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall discharges to a heavily vegetated area. Some erosion was noted at the discharge point but not downstream. Trash from loading dock area were noted at the discharge point.
Unlikely	3597	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall is in secure area and was not reachable. Outfall assessed at a channel end along fenceline. Suggest Follow up investigation during rain event to confirm channel is the discharge location. Potentially gain access to the secure facility to confirm no pipes, need POCs.
Unlikely	3608	Trickle Flow	Flow	250 ml.	36 sec.	-	-	-	-	0.00055	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall is in good condition and free of trash. A trickle flow was present. No signs of any illicit indicators.
Unlikely	3776	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	This outfall has been reconstructed with the New Commissary Project.
Unlikely	3818	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall looks to be in good shape and dry. Outfall discharges stormwater via a rip rap channel. Located approximately 3 ft from the outfall is a large tree, the tree seems to be blocking the flow or water to the rip rap channel and directing it along a worn path parallel to the rip rap channel. Area appears washed out. Some trash.
Unlikely	3819	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall discharges stormwater to a concrete channel. The area where the channel end has collected a sustainable amount of debris, leaves, and fallen down trees. Outfall was dry and no sign of pooling.
Unlikely	4208	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall can not be reached from on base it must be accessed from Lampert road off base. Outfall comes in perpedicular to receiving channel which has impeded flow. About 12 ins of sediment within outfall.
Unlikely	4212	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall can not be reached from on base it must be accessed from Lampert road off base. Outfall is in good shape. Outfall channel is washed out, rip rap has been washed to the sides and downstream.
Unlikely	4214	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall can not be reached from on base it must be accessed from Lampert road off base. Outfall channel is experiencing erosion and is very washed out, recommend channel stabilization. Trash has accumulated in the outfall area especially downstream.
Unlikely	4215	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall can not be reached from on base it must be accessed from Lampert road off base. Portions of riprap found within outfall, possibly from upstream BMP.
Unlikely	4217	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Collects water from the east side of Lewis Village and the parking lot for North Post CDC. Outfall and Riprap channel are in good shape but bank is eroded and some pooling is observed at the end of the channel.

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Overall Characterization	Outfall ID	Report	Inspection Date	Time Military	Investigators	Outside Temperature (F)	Last Rainfall Date	Last Rainfall Time	Hours After Rain	Last Rainfall Amount	Sub-watershed	Latitude	Longitude	Landuse	Location	Origin of Outfall	Outfall Type	Outfall Shape	# of Pipes	Pipe Material	Pipe Dimensions	Open Drainage Material	Channel Depth	Channel Top Width	Channel Bottom Width	In Water?	Sediment?	Water/Sediment Amount
Unlikely	5542	2019_06_18_Outfall 5542.pdf	18-Jun-19	11:45	William Brown, Ashley Clark	87	17-Jun-19	20:44	15.0	0.94 in	53	38.75341	-77.19836	Institutional	NGA	Discharges stormwater from roof drains of FBNA main building.	Closed Pipe	Circular	Single	PVC	14 in	-	-	-	-	No Water	No Sediment	-
Unlikely	6046	2019-04-25_Outfall 6046.pdf	25-Apr-19	11:35	William Brown	65	19-Apr-19	22:15	133.0	0.32 in	33	38.728729	-77.131658	Suburban Residential	Woodlawn Village	Drainage for Plantation Dr. from Pole Rd. to Dairy Ct. and all of Boxwood Ct.	Closed Pipe	Circular	Single	PVC	12 in	-	-	-	-	No Water	No Sediment	-
Unlikely	6220	2019_06_18_Outfall 6220.pdf	18-Jun-19	11:25	William Brown, Ashley Clark	87	17-Jun-19	20:44	14.7	0.94 in	53	38.75341	-77.19836	Institutional	NGA	Discharges for green roof 6647 and part of the roof of the adjoining building. Connects to manhole 6221.	Closed Pipe	Circular	Single	PVC	8 in	-	-	-	-	No Water	No Sediment	-
Unlikely	6445	2019_06_18_Outfall 6445.pdf	18-Jun-19	11:35	William Brown, Ashley Clark	87	17-Jun-19	20:44	14.9	0.94 in	53	38.75341	-77.19836	Institutional	NGA	Discharges from BMP 6437 and adjoining building.	Closed Pipe	Circular	Single	PVC	14 in	-	-	-	-	Partial Water	Partial Sediment	4 in. sediment 4 in. water
Unlikely	6454	2019_06_18_Outfall 6454.pdf	18-Jun-19	11:15	William Brown, Ashley Clark	87	17-Jun-19	20:44	14.5	0.94 in	53	38.75341	-77.19836	Institutional	NGA	Discharges for BMPs; 6457, 6462, 6466, as well as area inlets 5469 and 6467.	Closed Pipe	Circular	Single	RCP	36 in	-	-	-	-	Partial Water	No Sediment	0.25 in. water
Unlikely	6605	2019_06_18_Outfall 6605.pdf	18-Jun-19	11:05	William Brown, Ashley Clark	87	17-Jun-19	20:44	14.3	0.94 in	53	38.75341	-77.19836	Institutional	NGA	Discharges for FBNA main building's western roof and surrounding grounds	Closed Pipe	Circular	Single	PVC	14 in	-	-	-	-	No Water	No Sediment	-
Unlikely	7221	2019-06-27_Outfall 7221.pdf	27-Jun-19	8:15	William Brown, Ashley Clark	83	25-Jun-19	1:00	55.3	0.15 in	53	38.747851	-77.192045	Industrial, Institutional	NGA	Discharge from BMP 7223 via riser 7222 which receives discharges from the generator farm on the south side of NGA	Closed Pipe	Circular	Single	RCP	36 in	-	-	-	-	Partial Water	No Sediment	5 in. water
Unlikely	7271	2019-04-23_Outfall 7271.pdf	23-Apr-19	10:35	William Brown, Ashley Clark	75	19-Apr-19	22:15	84.3	0.32 in	30	38.723286	-77.152563	Commercial	AAFES Parking and inbetween PX and Commissary	Outfall drains BMP 7256, permeable pavement	Closed Pipe	Circular	Single	Steel	15 in	-	-	-	-	No Water	No Sediment	-
Unlikely	3352	2019-04-30_Outfall 3352.pdf	30-Apr-19	11:15	William Brown, Ashley Clark	70	26-Apr-19	18:00	89.3	0.05 in	30	38.713459	-77.156822	Troop	AMSA 91	drainage for buildings 2291, 2292, 2293, and 2297 as well as their adjoining parking lots and BMP 3354	Closed Pipe	Circular	Single	RCP	18 in	-	-	-	-	No Water	No Sediment	-
Unlikely	5043	2019-05-29_Outfall 2523.pdf	29-May-19	11:00	William Brown, Ashley Clark, Camila Dias	85	26-May-19	22:30	60.5	1.22 in	33	38.4421	-77.0915	Industrial, Institutional	ADFE	Outfall is located off the W side of Williams Wood Road.	Closed Pipe	Circular	Single	RCP	12 in	-	-	-	-	No Water	No Sediment	-
Unlikely	7273	2019-04-23_Outfall 7273.pdf	23-Apr-19	10:35	William Brown, Ashley Clark	75	19-Apr-19	22:15	84.3	0.32 in	32	38.724282	-77.148801	Commercial	Commissary Loading Dock	This outfall drains BMPs 3152 and 3153 located east of the Commissary	Closed Pipe	Circular	Single	Steel	12 in	-	-	-	-	No Water	No Sediment	-
Unlikely	3008	2019-04-23_Outfall 3008.pdf	23-Apr-19	10:00	William Brown, Ashley Clark	75	19-Apr-19	22:15	83.7	0.32 in	32	38.705463	-77.155184	Commercial	PX Loading Dock	Drainage from BMP 3022, which collects stormwater from the AAFES loading dock and dumpster pads via curb cuts and a Trench drain (1525) at the loading bay.	Closed Pipe	Circular	Single	HDPE	12 in	-	-	-	-	No Water	Partial Sediment	2 in. sediment
Unlikely	3351	2019-04-30_Outfall 3351.pdf	30-Apr-19	10:55	William Brown	70	26-Apr-19	18:00	88.9	0.05 in	30	38.713688	-77.157174	Troop	Stuart Road	Outfall drains from pipe inlet 3031 which collects water from the north parking lot north of building 1953.	Closed Pipe	Circular	Single	CMP	36 in	-	-	-	-	No Water	No Sediment	-
Unlikely	234	2019-05-01_Outfall 234.pdf	1-May-19	11:30	William Brown, Ashley Clark	70	26-Apr-19	18:00	113.5	0.05 in	26	38.708382	-77.137731	Commercial	Staybridge Suites	Drainage for southern half of Staybridge Suites building and southern parking lot.	Closed Pipe, Open Drainage	Circular, Parabolic	Single	HDPE	30 in	Riprap	18 in	6 ft.	0 in	No Water	No Sediment	-
Unlikely	969	2019-05-01_Outfall 969.pdf	1-May-19	13:15	William Brown, Ashley Clark	70	26-Apr-19	18:00	115.3	0.05 in	21	38.692777	-77.130364	Commercial	Holiday Inn	Drainage for service entrance at rear of holiday inn express Knadle Hall.	Closed Pipe, Open Drainage	Circular, Parabolic	Single	RCP	12 in	Concrete	8in	3ft	1ft	No Water	No Sediment	-
Unlikely	5441	2019-04-25_Outfall 5441.pdf	25-Apr-19	10:45	William Brown	65	19-Apr-19	22:15	132.5	0.32 in	33	38.72208	-77.132194	Suburban Residential	Woodlawn Village	Drainage for part of Herb Garden Ct. and part of Plantation Dr.	Closed Pipe	Circular	Single	PVC	12 in	-	-	-	-	No Water	No Sediment	-
Unlikely	7272	2019-04-23_Outfall 7272.pdf	23-Apr-19	10:30	William Brown, Ashley Clark	75	19-Apr-19	22:15	84.2	0.32 in	30	38.724282	-77.152951	Commercial	AAFES Parking and food court material storage	Drainage for BMP 7260, 7258, and inlets located in parking areas to the north and west of the PX.	Closed Pipe	Circular	Single	Steel	22 in.	-	-	-	-	No Water	No Sediment	-
Unlikely	5338	2019-04-25_Outfall 5338.pdf	25-Apr-19	10:00	William Brown	65	19-Apr-19	22:15	131.7	0.32 in	33	38.737027	-77.129419	Suburban Residential	Woodlawn Village	Drainage for curb and area inlets for Mansion Ct. north and south, as well as part of Plantation Dr.	Closed Pipe	Circular	Single	PVC	12 in	-	-	-	-	Partial Water	Partial Sediment	4 in. sediment 5 in. water
Unlikely	5452	2019-04-24_Outfall 5452.pdf	24-Apr-19	10:38	William Brown, Ashley Clark	75	19-Apr-19	22:15	108.4	0.32 in	33	38.731932	-77.132065	Suburban Residential	Woodlawn Village	Outfall services Grist Mill Ct. north and south and section of plantation Dr.	Closed Pipe	Circular	Single	PVC	12 in	-	-	-	-	Partial Water	Partial Sediment	1.5 in. water 0.5 in. sediment
Unlikely	3632	2019-05-01_Outfall 3632.pdf	1-May-19	10:55	William Brown, Ashley Clark	70	26-Apr-19	18:00	112.9	0.05 in	30	38.726228	-77.143112	Institutional	Building 1840	Drainage for BMP 3591, which collects water from building 1840 the lawn surrounding it and a portion of parking lot.	Closed Pipe	Circular	Single	HDPE	18 in	-	-	-	-	Partial Water	Partial Sediment	7 in. sediment 2 in. water
Unlikely	5379	2019-04-25_Outfall 5379.pdf	25-Apr-19	10:30	William Brown	65	19-Apr-19	22:15	132.2	0.32 in	33	38.734953	-77.131648	Suburban Residential	Woodlawn Village	Drainage for Ice House Ct. and parts of Herb Garden Ct., Mansion Ct., and Orchard Ct.	Closed Pipe	Circular	Single	PVC	12 in	-	-	-	-	No Water	Partial Sediment	1 in. sediment
Unlikely	6843	2019-06-27_Outfall 6843.pdf	27-Jun-19	9:10	William Brown, Ashley Clark	83	25-Jun-19	1:00	56.2	0.15 in	53	38.756896	-77.186339	Industrial, Institutional	North Area Fire Department	Discharge from BMP 6846	Closed Pipe	Circular	Single	RCP	30 in	-	-	-	-	No Water	No Sediment	-

2019 Outfall Reconnaissance Inventory Inspections
Municipal Separate Storm Sewer Systems General Permit Number VAR040093

SES Construction and Fuel Services LLC

		Flow Characterization													Physical Indicators at Flowing Outfalls									Physical Indicators at Flowing and Non-Flowing Outfalls			
Overall Characterization	Outfall ID	Flow Characterization	Sample Taken From	Volume	Time to fill	Flow depth	Flow Distance (in)	Flow Time (sec)	Flow width	Flow Rate (cfs)	pH	Ammonia mg/L	Free Cl (mg/L)	Total Cl	Physical Indicators (Flowing)	Odor	Odor Severity	Color	Color Severity	Turbidity	Floatables	Floatables Severity	Comments for Flowing Outfalls	Physical Indicators (Non-Flowing)	Indicator Description	Indicator Comments	Notes
Unlikely	5542	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall and channel were in good shape. Some ponding observed in receiving channel possibly due to recent rainfall (less than 72 hrs). Outfall was not flowing. No photos taken, secure area. Overall site area was assessed due to recent rainfall being a potential concern for dry weather screening; assessment included investigation of upstream and downstream outfalls, BMPs, and associated drainage areas. Outfalls flowing to BMPs were dry. Conclusion from investigation is that flowing outfall are not due to or contributed with illicit discharges.
Unlikely	6046	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall is in good shape but uphill area experiencing some erosion. Outfall drains to a large wetland area located downstream.
Unlikely	6220	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Overall outfall looked good. Outfall was dry and free of debris or trash even though a recent storm was less than 72 hrs from screening. Trail to outfall made it easily accessible. No photos taken, secure area.
Unlikely	6445	Moderate Flow	Flow	250 ml.	6 sec.	-	-	-	-	0.00146	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall was flowing and some pooling was observed in the channel below. Outfall was easily accessible. Located adjacent to reflecting pond. Overall outfall appear in good shape, some sediment (approx. 4 in) but no impeding flow. No photos taken, secure area. Overall site area was assessed due to flowing outfalls; assessment included investigation of upstream and downstream outfalls, BMPs, and associated drainage areas. Internal outfalls flowing to BMPs were dry. Conclusion from investigation is that flowing outfall are not due to or contributed with illicit discharges. Flow is due to recent rainfall events.
Unlikely	6454	Moderate Flow	Flow	250 ml.	7 sec.	-	-	-	-	0.00125	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall was flowing and some pooling was observed in the channel below possibly due to recent rainfall (less than 72 hrs). Overall outfall appear in good shape. No photos taken, secure area. Overall site area was assessed due to flowing outfalls; assessment included investigation of upstream and downstream outfalls, BMPs, and associated drainage areas. Internal outfalls flowing to BMPs were dry. Conclusion from investigation is that flowing outfall are not due to or contributed with illicit discharges. Flow is due to recent rainfall events.
Unlikely	6605	Moderate Flow	Flow	150 ml.	6 sec.	-	-	-	-	0.00088	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall was difficult to access, located down a steep slope. The area surrounding outfall was fully vegetated. Outfall and channel were in overall good shape. Moderate flow observed at outfall. Some trash observed in drainage area. No photos taken, secure area. Overall site area was assessed due to flowing outfalls; assessment included investigation of upstream and downstream outfalls, BMPs, and associated drainage areas. Internal outfalls flowing to BMPs were dry. Conclusion from investigation is that flowing outfall are not due to or contributed with illicit discharges. Flow is due to recent rainfall events (less than 72 hrs).
Unlikely	7221	Trickle Flow	Flow	125 ml.	33 sec.	-	-	-	-	0.00013	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Rip rap channel washed out at discharge point. Outfall in good shape. BMP fully vegetated, some trash and trees within channel. A slow flow was noted but found to be from the upstream BMP controlling flow volume.
Unlikely	7271	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	No Indicators	-	-	Outfall in good shape and has a riprap apron which discharges to a grassed channel. Suggest extending rip-rap channel and/or regrading grassed swale to match width of apron. Erosion noted above headwall, recommend reseeding.
Unlikely	3352	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Outfall Damage	Spalling, Cracking, or Chipping	Cracking around joint connection to headwall	Outfall itself is in good shape. Rip-rap channel has a build-up of leaf liter and debris.
Unlikely	5043	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Major erosion, receiving channel is approximately 30 feet below point of discharge. Will require major efforts	The outfall discharges runoff to a channel that is experiencing major erosion. Approximately a 30 ft drop from the outfall to the receiving channel. Receiving channel requires restoration.
Unlikely	7273	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Outfall Damage	Spalling, Cracking, or Chipping	Pipe has separated from concrete casing	Windblown trash was noted all around the outfall and BMPs. Outfall pipe has slightly separated from headwall. Still within headwall and impacted. Riprap apron was covered in sediment likely from eroded banks within the BMPs, suggest reseeding BMP banks.
Unlikely	3008	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Outfall Damage	Spalling, Cracking, or Chipping	The brick and concrete lining is cracking at the outfall	Outfall channel grade is above the point of discharge therefore water flow is impacted causing water to pool. Receiving channel appears to have been riprap that is now taken over by sediment/vegetation. Head wall is cracking around pipe and has structural issues. Outfall itself is partially full of sediment and water.
Unlikely	3351	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Outfall pipe is disconnected from drop structure	Outfall pipe is exposed and under cut. Suggest re-stabilizing the outfall to prevent erosion. The upstream drop structure connection to outfall has detached from pipe and has major structural issues. drop structure and discharge pipe should be replaced.
Unlikely	234	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Downcutting at the edge of the level spreader	Outfall channel and above rip rap structures are full of leaf liter and debris. The corner of the level spreader at the bottom of the hill is washed out.
Unlikely	969	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Receiving channel is severely washed out	Downstream of outfall is very washed out and has created gully. Area and channel below outfall is experiencing erosion. Suggest re-stabilizing and regrading area to reduce washout of area.
Unlikely	5441	No Flow	Pool	-	-	-	-	-	-	-	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	Outfall Damage	Spalling, Cracking, or Chipping	The PVC pipe is slightly cracked, but not impeding flow	Outfall pipe has been damaged, but damage is not impeding the function of outfall. Some iron floc at outfall discharge point, ponding water observed within the upstream BMP, this area is considered a large wetland area.
Unlikely	7272	Trickle Flow	Flow	200 ml.	18 sec.	-	-	-	-	0.00039	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	Pipe Benthic Growth	Green	Algea from continuous low flow from underdrains for permeable pavement	Green algae located at discharge point and within riprap apron. Ponding observed within riprap channel which is lined with filter fabric. Fabric could be clogged preventing infiltration of water. A trickle flow was observed but was considered to be a slow discharge from underdrains associated with the permeable pavement. Algae is also likely a result of a continous slow discharge from the parking area.
Unlikely	5338	No Flow	Pool	-	-	-	-	-	-	-	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	Poor Pool Quality	Sheen	Outfall is in wetland, sheen from biodegradation	Outfall is in good condition but partially submerged. Outfall is located within wetland area. Oil sheen observed within stream, attributed to biological process that occur within a wetland.
Unlikely	5452	No Flow	Pool	-	-	-	-	-	-	-	7	0.5	0	0	No Indicators	-	-	-	-	-	-	-	-	Poor Pool Quality	Sheen	Outfall is in wetland, sheen from biodegradation	Outfall is in working order and partially submerged. Biological sheen observed at outfall and within channel. Outfall is located within in a wetland area. Sheen is associated with the biological processes of a wetland. Sheen is not an indicator of any possible unauthorized discharge.
Unlikely	3632	No Flow	Pool	-	-	-	-	-	-	-	7	0	0	0	No Indicators	-	-	-	-	-	-	-	-	Poor Pool Quality	Excessive Algae	Green Algae at the outfall due to back up from wetland area	Outfall is in good condition but water from downstream wetland seems to be backing up into the outfall. There is excessive algae at outfall. Possibly due to stagnant pooling water.
Unlikely	5379	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Poor Pool Quality, Pipe Benthic Growth	Sheen, Orange	Outfall is in wetland, sheen from biodegradation. Orange colored precipitate (gelatinous slime) within pipe attributed to iron oxidizing bacteria	Outfall is in good condition with minor sediment buildup. Moderate amount of iron floc build up within outfall pipe and at the discharge point, likely from the constructed wetland (5385).
Unlikely	6843	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	Poor Pool Quality, Pipe Benthic Growth	Sheen, Orange	Outfall is in wetland, sheen from biodegradation. Orange colored precipitate (gelatinous slime) within pipe attributed to iron oxidizing bacteria	Moderate amount of iron floc. Outfall channel is washed out. Distinct biological sheen from floc, some trash and tree litter present. BMP fully vegetated. Drains into large wetland area. Secure Area, No Pictures

2019

APPENDIX D

ILLICIT DISCHARGE DECTECTION AND ELIMINATION INCIDENT TRACKING SUMMARY

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
15-002	10/29/2014	ORI	509	Initial discovery was made on October 29, 2014. This is an outfall associated with Building 808, old Dewitt Hopsital. Three follow-up source tracking investigations were conducted on 11/14/14, 01/23/15 and 04/10/15 involving visual evaluation of the storm sewer system and investigation inside Bldg 808 to determine the source. The investigation inside the building on 04/10/15 revealed that the discharge appeared to be coming from a sump pump that had an HVAC treatment porcess attached. No discharge from the pump occuring due to the power to the building being shut off due to upcoming demolition and ruptered pipes. Confirmation that the illicit discharge was no longer active was conducted at the outfall.	Re-screen 2015/2016 Periodic screening in 2016/2017 Demollition of Building 808, Old Dewitt Hospital was compled on November 6, 2018. The outfall was monitored during the 2017 - 2018 reporting year and a flow was still observed after demolition. Additional source tracking was conducted during the 2018 - 2019 reporting year to determine if this is an underground seep. *December 20, 2018 during a light rain event, an inspection was made. Findings showed that water had a flow, was heavy iron colored and erosion downslope of outfall was heavy. Could not locate source, inspection is documented in binder. *Field investigations confirmed sections of pipes to be abandoned by Dewitt Demolition have been closed. *Plan review of a Dewitt Annex Addition showed a piped stream segment feeding into outfall 509 and that new tree box filter and small section of WTU annex also feed into outfall *Inspections conducted during dry weather and rain event to document base flow vs. rain flow. found to have a 5" difference.	Invalid Report; No Illicit Discharge; Corrective Action Not Required	Closed 5/13/2019 *Records in Periodic Inspection Binder
15-004	10/30/2014	ORI	6244	Initial discovery of illicit discharge was made on October 30, 2014. This is an outfall associated with Fort Belvoir Community Hospital (Buildings 1229, 1230 and 1231). Considerable flow was noted at this outfall and several potential sources were identified: overflow of watering and fertilizing of green roof, overflow of non-target irrigation, possible water line break or a possible illicit connection within the hospital. (The hospital was finished on a tight schedule and there is a possibility that error could have occurred in plumbing connections.) A subsequent interview was conducted with the Chief of Facilities Management Department on February 20, 2015 and it was concluded that non-target irrigation of landscaping areas was the potential cause of the discharge. This outfall will remain on the ORI list for the next permit year and evaluated during the growing season when watering may occur. Based on unsuccessful source tracking conducted this permit year and the intermittent nature of this discharge, it has been determined that the tracking investigation needs to be conducted during a discharge event to determine the source of discharge.	Periodic screening during the 2018/2019 reporting year determine seasonal variation in discharge and if water quantity is an issue. The Internal Outfall was visited in august and December 2018 where no flow was observed. The Internal outfall discharges into a stormwater retention pond which did not show any damage due to flow volumes. In October 2018 contact was made with the hospital and maintenance personnel noted that overflow from the Sunrise/Meadows cistern discharges to the outfall. addiitonal site visits were madew to confirm that water quantity from flows were non erosive.	Invalid Report; No Illicit Discharge; Corrective Action Not Required	Closed 12/6/2018 *Records in Periodic Inspection Binder

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
15-006	2/4/2015	Direct Notification	7278 (2723)	DPW Remediation Project Manager reported that there was an inquiry from VADEQ about outfalls located near Tully gate. Outfall observed to be flowing. After upgrade of sanitary lift station 1409, outfall flow decreased significantly. This outfall place on ORI list for continued monitoring. The most recent monitoring at the site (9/8/15) showed no flow from the outfalls. Awaiting funding to conduct remote camera inspection of pipes to determine if the low flow is groundwater.	During the 2015 – 2016 ORI the outfall was screened on September 9 and 21, 2015 and was found to have no signs of illicit discharges. Due to previous reports it was decided to keep the outfall on the rescreen list. During the 2016 – 2017 ORI the outfall was once again screened on February 7, 2017 and although water was noticed at the outfall there were no physical indicators of illicit discharges and may have been due to the high water table in the area. Plan review for the Tulley Gate Visitor's Center and the installation of the UDS were reviewed and found that at least one area inlet within the entry gates discharge to the outfall. Wetland studies of the area were also reviewed and confirmed the high water table which drives a substantial increase in flows during rain events. Outfall and drainage were also found to be outside of the Regulated MS4 Service area. Area can be re-evaluated if 2020 census changes MS4 regulated area for the 2023-2028 permit cycle.	Invalid Report; No Illicit Discharge; Corrective Action Not Required	Closed 12/30/2018 *Updated database
15-012	4/3/2015	Direct Notification	Sheet flow to un-named tributary to Gunston Cove	DPW employee discovered emergency eye wash station drain in Building 367 routed to storm sewer. if emergency occurs this has the potential to be an illicit discharge	Work request submitted on April 3, 2015. Awaiting funding. FE-15558-5-J - During the 2018-2019 reporting cycle the whole building was undergoing a complete remod - During the MS4 database update it was determined that the facility is located outside of the regulated MS4 area - Area was considered to be part of the 'Additional Coverage' area that is anticipated by Fort Belvoir to become regulated after the 2020 census and therefore outfall from the facility will still be screened during the 2018-2023 permit cycle under a lower priority	Valid Report; Potential Illicit Discharge; Corrective Action Required	Closed 12/30/2018 *Updated database
16-10	11/24/2015	ORI	1715	During the ORI initial screening on November 24, 2015 a trickle flow was present. DPW ENRD and contractor staff conduct a follow-up source investigation on April 4, 2016. . It was suspected that there was a potable water leak in the area.	The outfall was re-screened during the 2016 – 2017 ORI and the flow was found to have increased. An Illicit Discharge investigation began on November 14, 2016 and resulted in a finding that there is a connection from the mechanical room in building 357 which feeds directly into the storm sewer. Plans for Corrective Actions to be taken are currently underway. During the source tracking investigation it was also noted that this illicit discharge originally daylights at outfall structure ID 1728 which is now covered under the new Industrial Stormwater (ISW) Major Permit under Representative Outfall 021. Future Investigations and Corrective Actions will continue to be tracked under the ISW Permit VA0092771. This MS4 outfall will be re-screened to confirm that the source has been eliminated. IJO submitted to reroute to the sanitary sewer (FE-18541-8-J), Once rerouting is complete and no flow is noted the incident can be closed * January 3, 2019 received response from Fred Carter that Jason from AW is expecting pricing on January 8, 2019. Email correspondence in binder * Following up monthly during the AW meeting; offered to coordinate access on their behalf	Valid Report; Illicit Discharge; Corrective Action Required	Open

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
17-49	4/4/2017	Direct Notification	N/A	Wetlands Inspector from Angler Environmental reported that there are two outfalls located at downhill from the Officer's Club, Building 20 that are not on our outfall maps. One outfall had flowing water.	Field investigation needs to be conducted during dry weather at these 2 outfalls and GPS data taken for the Structure. The area is not regulated under the MS4 permit and therefore will not be covered in the ORI. Area can be re-evaluated if 2020 census changes MS4 regulated area for the 2023-2028 permit cycle.	Valid Report; Potential Illicit Discharge; Corrective Action Required	Closed 12/30/2018 *Updated database
18-03	7/17/2017	Direct Notification	N/A	Old construction contractor laydown area noted at Fort Belvoir North Area with possible spill of an unknown substance. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	This is possibly an old spill. Site being tracked to conduct site inspection to determine what is there. Discussion with DPW Spill Response (Kelsey and Jerry) on 9/14/18. Jerry went out this past month and looked at it. Nothing found.	Invalid Report; No Illicit Discharge; Corrective Action Ongoing.	Closed 9/14/2018
18-51	5/31/2018	Weekly Windshield	ISW Outfall 007	Metal shavings and other aluminum metal pieces were dumped at the 21st Street Debris Collection Facility up slope from ISW Outfall 007. Complete record resides @ ISW Outfall 007 File Binder.	Industrial Stormwater Program Inspector notified. Industrial Stormwater Program Inspector notified. all investigations are completed under the industrial stormwater permit. The Contractor running the facility, Bates, was contacted and reminded on what should be accepted at the facility. The CMRL labs where the metal shavings originated were contacted and coordination occured to properley dispose of like materials in the future. CMRL group was contacted and provided guidance on what is and is not accepted at the facility on 7 September 2018.	Valid Report; Illicit Discharge; Corrective Action Taken.	Closed 9/7/2018
18-54	6/27/2018	Weekly Windshield	N/A	15 - 20 poles and overhead equipment discarded improperly. Complete record found in Illicit Discharge Windshield Inspections and Monitoring 2017 - 2018 Binder.	Dominion Virginia Power was notified. Poles need to be removed.	Invalid Report; No Illicit Discharge; Corrective Action Taken.	Closed 6/27/2018
19-01	7/13/2018	DPW Inspector	N/A	Unanticipated pipe found during facility routine inspection and evaluation of ISW RO-011	Follow-up inspection occurred during a rain event when runoff was expected. While the origin of the pipe is still unknown, it is likely an abandoned in place water or sewer utility line. It is sticking out of the embankement and reinforced with concrete.	Invalid Report; No Illicit Discharge; Corrective Action Not Required.	Closed 8/22/2018
19-02	7/22/2018	Direct Notification	N/A	At Lift Station 687 located at the end of Morrow Road at the intersection of Johnston Road, approximately 300 gallons of sanitary sewer effluent overflowed from the second overflow basin onto the ground.	Reported to VADEQ. Ground was saturated from multiple days of heavy rain and LS 687 was not keeping up. LS located 100 yards from Gunston Cover. A project is underway so the pumps will autimatically increase to 63 hertz once the high level is reached. This will assist with pumping down the station prior to staff arriving onsite.	Invalid Report; No Illicit Discharge; Corrective Action Taken.	Closed 7/21/2018
19-03	7/25/2018	Direct Notification	N/A	Plug placed in trench drain (MS4 Structure ID#4757) during a 17 May DAAF Lakota hangar incident caused water to back up in a hangar. When plug was removed, a black soot substance came out of the drain.	Plug removed, contractor cleaned up the black soot immediately. Downstream structures (MS4 Structure ID #s 4754, 4755, 4756 were investigated for the presence of any oil like substances.	Invalid Report; No Illicit Discharge. Corrective Action Taken.	Closed 7/25/2018
19-04	7/26/2018	Direct Notification	N/A	5 gallons of generator coolant spilled onto concrete platform during a generator run. No product reached the ground. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	The fuel cooler was drained of coolant below the leak and parts to repair the leak were ordered. Absorbent pads were used to clean the concrete surface and housing unit. These materials were properly containerized and stored, and are awaiting disposal. On 30 July 2018, the tube was repaired and pressure tested.	Invalid Report; No Illicit Discharge; No corrective Action Taken.	Closed 7/31/2018
19-05	7/30/2018	Direct Notification	N/A	Car leaking 1 quart of motor oil on uper deck of NGE East parking garage. No oil reached the drains.	Absorbent pads werer used to clean concrete surfance, were properly contained and stored, and are awaiting disposal.	Invalid Report; No Illicit Discharge; No corrective Action Taken.	Closed 7/31/2018
19-06	7/31/2018	Direct Notification	N/A	Diesel engine being moved by a fork lift truck and fell off of the fork lift truck during movement resulting of a relase of motor oil onto a concrete ramp at 249th Engineering, Building 1420. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	No oil reached a pervious surface. 249th personnel immediately contained the spill by using absorbent pads, rolls and clay absorbent materials. The contaminated absorbent material was bagged or placed in a plastic container to be disposed of properly at the hazardous waste turn in facility located at building 1495.	Invalid Report; No Illicit Discharge; No corrective Action Taken.	Closed 7/31/2018

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
19-07	8/1/2018	Direct Notification	N/A	15-20 gallons of hydraulic oil spilled onto the ground from a batwing mower due to a cracked reservoir. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	The contaminated soil was placed in eleven lined drums for disposal at the Hazardous waste turn in facility (building 1495). Aleut will cover the area that was affected with new top soil and then reseed the area.	Invalid Report; No Illicit Discharge; Corrective Action Taken.	Closed 8/1/2018
19-08	8/3/2018	Direct Notification	N/A	Spill of approximately 10 gallons of 15W40 engine oil occurred on paved ground near ADFE facility during changing of oil on 2 generators. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All	Absorbent mats and socks were placed along the curbing of the pavement, as well as the surface water outflow points, and approximately 8 bags of granular absorbent were spread over the	Invalid Report; No Illicit Discharge; Corrective Action Taken.	Closed 8/6/2018
19-09	8/10/2018	Direct Notification	N/A	This is an ISW SWPPP facility. No illicit discharge reported, but facility personnel showed concern about the potential for trench drains running along the hangar bay doors for Building 3126 to be connected to the storm sewer system	Dye testing was conducted and an IJO was drafted along with the report findings. Tenant needs to submit an IJO to connect all building drains to the sanitary sewer. All corrective actions are being handled under industrial Stormwater permit	Valid Report; Potential Illicit Discharge; Corrective Action Required	Closed 8/8/2018
19-10	8/22/2018	Direct Notification	N/A	Approximately one gallon of oil had spilled at Bulding 765 because of a leaking generator O-ring. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	It was raining however, the oil was contained within the generator shelter and was cleaned up with absorbent pads and absorbent materials. No oil entered a storm or sewage drain or encroached	Invalid Report; No Illicit Discharge; No corrective Action Taken.	Closed 8/22/2018
19-11	8/27/2018	DPW Inspector	N/A	This is an ISW SWPPP facility. Illicit connection discovered inside Bldg 331. Floor drain within hazardous waste container storage area drains outside the building and directly into a storm channel.	Floor drain plugged on 6 September 2018. DPW Inspectors performed a followup inspection on 17 September 2018 to confirm plug was in place and no potential for discharges remain	Valid Report; Potential Illicit Discharge; Corrective Action Taken	Closed 9/17/2018
19-12	9/5/2018	Direct Notification	N/A	Approximately one gallon of brake fluid was spilled from an Aleut truck at the MWR Resale Lot at the corner of Gunston and Abbot Road. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	The spill was on pavement and did not enter any storm drains. Aleut cleaned up the spill with absorbent which will be disposed of properly at the hazardous waste building 1495.	Invalid Report; No Illicit Discharge; No corrective Action Taken.	Closed 9/5/2018
19-13	9/12/2018	Direct Notification	N/A	At Building 3143 (12th Avn Bn Alpha Co Hangar)5- 10 gallons of used oil being stored in a 55-Gallon Drum at a hazardous waste satellite accumulation area leaked onto the surrounding asphalt pavement. Drum had approximately 30 gallons in it, and 20-25 gallons of oil was in the secondary containement area. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	The spill was properly contained and all wastes were disposed of at Bldg 1495 on 13 September 2018.	Invalid Report; No Illicit Discharge; No corrective Action Taken.	Closed 9/13/2018
19-14	9/20/2018	Windshield Inspection	2931	Near intersection of Theote Road and Warren Road there is a large denude area uphill. During a precipitation event the sediment from this hill washes onto the street and directly into the stormdrain (2931).	Follow-up inspection completed on September 26, 2019. a small area on the hill side was found to be de-nuded. Submited DMO for stabilization of area.	Valid Report; Potential Illicit Discharge; Corrective Action Required	Closed 9/26/2018
19-15	9/21/2018	Direct Notification	N/A	Hydrolic Fluid spill at Ferrar Gate. Where 10 drums of hydraulic fluid contaminated dirt was collected. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	dirt was transported by off site waste shipment in october of 2018, the area were soil removal occurred was restabilized. A site visit completed on 10/9/2018 confirmed the area had been reseeded and mulched	Invalid Report; No Illicit Discharge; No corrective Action Taken.	Closed 10/9/2018
19-16	10/2/2018	Public Notification	5901	Complaint that AW was dewatering into stormdrain (5901), without sediment bag.	AW was flushing newly installed water line for sampling. Chlorinator and backflow prevention were in place. Discharge was to grassy area	Invalid Report; No Illicit Discharge; No Corrective Action Taken.	Closed 10/2/2018
19-17	10/10/2018	Public Notification	2810	Jerry received a call from Adam Petrizza stating one of Aleut's employees spotted the soap discharge out of Building 1420. It was hypothesized to be coming from washing the roof. A short rain event occurred approximately half an hour before the call had been made. An investigation was conducted and found to have no adverse impacts	Booms were installed around the surrounding inlets to prevent soap suds from entering the stormwate system. The site was investigated and no operational source was found (no washing). But it was determined that the stored roofing material contained small amounts of detergents applied during the manufacturing process that was being discharged after the small rain event that occured.	Valid report; Illicit discharge; Corrective Actions Taken	Closed 10/11/2018

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
19-18	10/23/2018	Weekly Windshield	2934	In front of building 714, there is a puddle with washout material, possibly concrete or paint. There are buckets near this puddle with no lids or labeling also filled with washout paint or concrete. Next to building 714 there is a lay down area with several buckets and miscellaneous items that may be chemical, these shall be stored high and dry and labeled. No washout material had made it to the MS4 system but was puddling on the road side.	Don Rashan and Wilson Almendarez of DPW ED-Engineering Div have been notified. They notified the contractor responsible for the site and reiterated the concrete washout procedures and had the contractors clean it up. A followup site visit was completed on October 25, 2018 and confirmed that concrete washout had been cleaned up.	Valid report; Potential Illicit discharge; Corrective Action Taken	Closed 10/25/2018
19-19	11/2/2018	Direct Notification	N/A	Spill occurred at North Post AAFES Station, behind gas pump #12 6095 Gorgas Rd, Fort Belvoir, VA 22060. approximately 11 gallons of gasoline. fuel tank fell from truck and hit the ground, causing the fuel tank to crack and break. Approximately 15 gal of gasoline leaked from fuel tank onto the ground. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	Fire Department made attempts to plug hole in fuel tank, tank was too rusted for putty to remain adhesive. Fire Department did not have fire-rated equipment small enough to pump the fuel tank. Remaining fuel in fuel tank was applied to oil dry absorbent under the tank during a controlled spill to empty out the tank before towing the vehicle from the scene of the spill. Aleut applied oil dry, booms and absorbent pads to the remaining gasoline and emptied contents of spill into drums to be delivered to Fort Belvoir Hazardous Waste Storage Facility	Valid report; No illicit discharge; No corrective action taken	Closed 11/2/2018
19-20	12/10/2018	Direct Notification	2931	The laydown lot at the intersection of Warren and Theote Rds, which was supposed to be unoccupied, wsa found to have various materials stored on it including, silt fences, trash bags, piping, pallets, and two spoil piles. This lot is occupied by American Water /Kelvic/Sure Shot.	Dan O'Brian with master planning gave permission to store pipe only. On december 20, 2018 follow up was conducted. The site has improved, areas have been stabilized with straw, spoil piles under 3' are covered, and silt fences are installed properly.	Valid report; Illicit discharge; corrective action taken	Closed 12/20/2018
19-21	12/12/2018	Direct Notification	N/A	At the recycleing center a bag containing hydrolic fluid and absorbent pads ruptured and spilled on the ground inside the facility. The spill was between 2 and 3 gallons.	All of the liquid was absorbed with pads and properly bagged. The liquid was inside on the warehouse floor, no drains nearby.	Valid report; No illicit discharge; No corrective action taken	Closed 12/14/2019
19-22	1/7/2019	Direct Notification	N/A	Tenant reported to the Base Operating Support (BOS) contractor of a car leaking transmission fluid on the first floor of the NGA East parking garage.	BOS ESOH Team responded and cleaned the area. The employee is removing the vehicle from campus. The fluid leak has been contained to an area of approximately 3 sq. ft.; no oil reached the drains. Absorbent pads and kitty litter were used to clean concrete surface, were properly containerized and stored, and are awaiting disposal.	Valid report; No illicit discharge;No corrective action taken	Closed 1/7/2019
19-23	1/8/2019	DPW Inspector	N/A	I was notified at 11:00AM by the Fire Department of a leaking vehicle on Gunston Road and Pohick Road. The vehicale eventually left Fort Belvoir onto Route 1. The Fire Department was interested in using a sprayer vehicle to apply sand to the affected roads since cars were slipping at the turn from Gunston to Pohick. The Fire Department says this was likely an LRC vehicle that was leaking. I inquired with Aluet about this, but Aleut said their trucks apply a sand/salt mixture that would not be allowed under the MS4 permit (salt). I inspected the length of the leak with Aleut and didn't see any areas of puddled product that could be cleaned up with spill materials. I followed the spill out to Route 1, but didn't see any substantial staining, possibly due to the volume of cars on that road. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	Since we did see evidence of staining outside of Fort Belvoir, I made a notification of the incident to Fairfax County Non-Emergency phone number. Sand was applied by hand on 8 January at the Gunston/Pohick curve and the Jackson Loop/Gunston Road turn, since this staining was heaviest. Aleut put absorbent material down on Jackson Loop since this area did have some puddled product. The sand and absorbent material was picked up by Aleut a couple days later ahead of a rain storm.	Valid Report, No Illicit Discharge, Corrective actions taken.	Closed 1/11/2019
19-24	1/9/2019	Direct Notification	N/A	DPW was notified of a small spill on 16th Street by Jesse Simmons (American Water). When I was driving to 16th Street, I noticed staining on Theote Road leading to 16th Street. Jesse was not aware of this further staining, so we investigated. The stain continued to Pohick road (inbound lanes), to Tully Gate, to Route 1. Complete electronic record resides @ K:ENRD Public: Petroleum:4-Spills_Releases:All Spills_Sept 2009 - Current.xlx.	Jesse put down absorbent material on the portion of 16th street where the spill was more concentrated, this material was later containerized. I did not require any further cleanup since the staining on the roads was not puddled. The truck involved in the leak has been fixed.	Valid Report, No Illicit Discharge, Corrective actions taken.	Closed 1/9/2019

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
19-25	1/23/2019	Direct Notification		NGA Police reported to the Base Operating Support (BOS) contractor of a roll-off trash truck leaking radiator fluid in the right lane of the inspection bay at the RIF (concrete surface)	NGA Police contained the spill with on hand Absorbent. In addition NGA Police called Ft. Belvoir Fire Department HazMat team and BOS Environmental Safety and Occupational Health (ESOH) Team. The HazMat team provided additional Absorbent. The fluid leak occurred on a concrete surface and was contained to area of approximately 40 sq. ft.; no product reached any drains or vegetation. The trash truck's company (Waste Management) will be handling the clean-up and disposal of the spill. Plan for Preventing Recurrence: As part of their normal duties, NGA Police will continue to inspect vehicles for leaks and will notify ESOH and/or Ft. Belvoir. In addition, the NGA Police will prohibit vehicles known to be leaking fluids from entering the compound.	Valid Report, No Illicit Discharge, Corrective actions taken.	Closed 1/23/2019
19-26	2/15/2019	Direct Notification	3079	SSO At cleanout in back of bldg. 1145 on Chapek Rd.	Until crew arrived building staff marked bathroom commodes as out of service. Shortly after crew arrived and attempted to clear blockage at downstream manhole. Crew utilized Mini-Jetter to clear blockage. Crew then used water to clean surrounding pavement and swept free liquid into clean out. then lime was applied to surrounding soil. toilets were then flushed to observe if blockage was cleared at manhole. A push camera was used the next day to confirm that blockage had been cleared.	Valid report; Illicit discharge; Corrective action taken	Closed 2/15/2019
19-27	2/19/2019	Direct Notification	N/A	DPW was notified by the Fire Department of a spill at the 249th Motor Pool. I was given Specialist Corzo as my POC (786-709-0355). There was a small spill of diesel fuel on gravel/broken asphalt. The spill happened last week but no one noticed, then it sat over the weekend, so the asphalt is coming apart in this area. There was no puddled product that could be picked up, and the spill did not enter a storm drain.	DPW Spill Response program manager visited the site to assist in the response and cleanup. Booms were used to contain the spill which remained mostly on the concrete surface with small amount covered the gravel shoulder on the eastern portion of the site. absorbents were used to clean up the concrete surface the a small portion of gravel was removed. The unit to dug up any affected gravel/soils, containerized it, and turned it in as hazardous waste (Building 1495).	Valid Report, No Illicit Discharge, Corrective actions taken.	Closed 2/19/2019
19-28	2/22/2019	Weekly Windshield	N/A	near the road at the intersection of Morrow Rd. and Warren Rd. a silt fence had fallen down.	The silt fence was repaired or replaced. A follow up visit was completed on 2/27/2019 to confirm that area was fixed	Valid report; No illicit discharge; Corrective action taken	Closed 2/27/2019
19-29	2/22/2019	Direct Notification	N/A	On Friday, February 22nd, at approximately 2:27 PM, staff were notified by Aleut Management Services of an observed SSO at a manhole behind building 316.	Upon arrival, crew arrived onsite and attempted to clear the blockage from the downstream manhole. They hit a blockage at approximately 58 feet from the manhole where the SSO was reported. Crew then utilized the mini-jetter to clear the blockage from the downstream manhole towards the manhole where the SSO was discovered. Following, crew applied lime to the surrounding soil. After successfully clearing the blockage, crew observed that there were tree roots pulled back with the jetter. On Wednesday, February 27, 2019, crew confirmed that there was indeed root infiltration that is causing blockages to range from 50-75%. Work is being scheduled to maintain sewer line clearance.	Valid report; No illicit discharge; Corrective action taken	Closed 2/27/2019

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
19-30	2/22/2019	Direct Notification	N/A	On Friday, February 22, 2019 at approximately 3:00 PM, Aleut Management Services conveyed to American Water that a water main broke near building 3190 at Davidson Airfield. Staff immediately responded and drove by the location to verify that there was an active water main break. Upon arrival, AW staff were notified again by Aleut that there was another water main break near building 3145. After verification of both water main breaks, staff immediately placed dechlorination mats around the source of the water leak until crew could isolate the areas by closing off valves on both ends of the water lines.	American Water personnel were able to identify the source of the potable water discharge as a 16-inch and 2 inch water main lines. Dechlorination mats were strategically placed while potable water was discharged. Valves that are located on each end of the water line (approximately every 1,000 LF) were closed. The broken water lines were isolated at approximately 4:00 PM. Actions to repair the broken water lines are on-going. Crew completed the installation of new 2 inch polyvinyl chloride (PVC) pipe on 02/23/2019. Materials have been ordered to make the point repairs on the 16 inch. Crew did not visually see if potable water entered an adjacent storm drain. Reported to Fort Belvoir's Department of Public Works, who in turn, reported it to their industrial storm water specialist. It was conveyed that no further action was required.	Valid report; No illicit discharge; Corrective action taken	Closed 2/27/2019
19-31	2/28/2019	Direct Notification	N/A	At approximately 1045 I was notified that there had been a gasoline spill at DAAF at the hot refueling point (helicopter pad). I was told that the fire department and the hazardous waste team from DAAF had responded.	DPW Spill Response program manager visited the site to assist in the response and cleanup. By the time I got to the site Priscilla Bayer and Anthony Graham had cleaned up the spill. The spill was caused when a fueling line was laid from the fueling truck out to the fueling points. When the system was pressurized there was a leak at one of the T's in the fueling line. The leak was observed almost immediately so the system was shut down with only a small (`1-2 gallons) of fuel spilling on to a grass area. The soil in the contaminated area was removed down to a depth of approximately two inches and will be properly disposed of at the Fort Belvoir Hazardous Waste facility (building 1495). At the site I met with Mr. John Redman (airfield safety officer), Priscilla Baer, Anthony Graham, SGT Johnson and CW4 Denton. I also spoke with Chris Craft of the Fort Belvoir Fire Department (building 3237). The weather conditions were full sun, temperature of 39 degrees Fahrenheit with a wind from the south at about 6 mph. The fueling lines in the picture are shown on top of the concrete. They were on the grassy area at the time of the spill, The lines were relocated onto the concrete apron prior to my arrival. The incident is closed.The spill was conatined to a small area of grass on the side of the runway. The portion of the grassed swale was dug up for disposal and the area was reseeded.	Valid report; No illicit discharge; Corrective action taken	Closed 2/28/2019
19-32	3/1/2019	Weekly Windshield	3638	Between building 1809 and Franklin rd. north west of the intersection of Franklin rd. and 30th Engineer rd. at site of dig permit 19-73	Repair or replace silt fences that are down. Repair or replace safety fences that are down. Remove bucket of tar in parking lot, ensure all hazardous materials are stored high, dry, and covered. Move soil stock pile off of silt fence and at least 25 ft. from waterway, repair silt fence, and stabilize (seed and mulch) new stock pile location. Grade and stabilize (seed and mulch) tire ruts caused by trucks entering site.	Valid report; illicit discharge; Pending Corrective Action	Open
19-33	3/12/2019	Direct Notification	876 Channel	SSO Between the intersection of Gillespie Rd. and Jadwin Loop, along side of Mt. Vernon Rd.	Repair sewer force main. Vactor Truck was used to remove any standing effluent and then lime was placed around the affected areas.	Valid report; Illicit discharge; corrective action taken	Closed 3/12/2019

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
19-34	3/19/2019	Windshield Inspection	N/A	At the rear loading dock and service entrances, of bldg. 2321, AAFES. Located south of John J. Kingman Rd. and east of Silbert Rd. A truck pumping grease had spilt some grease in the parking area where grease and trash management occurs	Report reffered to spill response team and the area was cleaned up. Several site visits have been made to the facility and grease management continues to be an issue. Grease has not made it to the MS4 system but has a large potential to become an illicit discharge. The facility had their inspection frequency increased and has been added to the windshield inspection route completed by DPW.	Valid report; Potential illicit discharge; Pending Corrective Action	Open
19-35	3/22/2019	Direct Notification	1631	SSO On Lowen Rd. In frotnt of building 1142	Staff members were able to stop the SSO by unblocking the gravity sewer lines. Lime was also applied to the surrounding area.	Valid report; Illicit discharge; corrective action taken	Closed 3/27/2019
19-36	3/25/2019	Public Notification	3656	internal Outfall 3656 located on the northern side of parking area off of Gothels Rd. the parking area is bordered by an open field to the south and a wooded area to the north. 3656 discharges into the wooded area with small portions of the flow puddling to the east and the rest following an earthen channel into a culvert crossing Gothels Rd. and finaly discharging at outfall 3608. Outfall 3656 was found to be discharging large amounts of water during dry weather	Based on maps it was determined that the main contributor to that location was a channel running south of the field where the North Post Access Control Point Project is occuring. After talking to the inspector on the project, David Greenspan, it was determined that de-watering of sedimentation basins was occuring due to heavy rainfall on March 21st, and 22nd. Mr. Greenspan noted that a sediment bags were being used to minimize sediment laden discharge.	Invalid Report, No Illicit Discharge, No Corrective Action taken.	Closed 3/25/2019
19-37	3/26/2019	Direct Notification	N/A	Near Loading Dock A at the back of the Central Utility Plant, AECOM subcontractor ERG reported a small spill while refueling a grounds vehicle, Approximately 1/2 Gallon.	ERG contained with spill with absorbent pads and absorbent material from their vehicle spill kit. All material was cleaned up and triple bags. Used absorbent will be disposed of properly offsite by ERG. No contaminant reached any storm drains.	Valid Report, No illicit Discharge; No Corrective actions taken.	Closed 3/26/2019
19-38	4/8/2019	DPW Inspector	216	At curb inlet ID# 215 there was a petrolium spill in the parking lot. The lot is for building 1200 and entered curb inlet 215 and was discharged to state waters through outfall 216. Upon follow up investigation it was discovered that Aleute truckes were parked over the spill with their cars running for an extended period of time.	Cars should not be parked over inlets and left running. Aleut contract specialist was notified.	Valid Report, Illicit Discharge, Corrective actions taken.	Closed 4/8/2019
19-39	4/11/2019	Direct Notification	N/A	AECOM genorator area personnel identified a diesel fuel spill while performing rounds. The leak was estimated to be less than 5 gallons (3-4 gallons contained by secondary containment and less than a gallon that seeped outside the generator).	3inches of soil was removed below the fuel penetration level underneath the generator). Ft. Belvoir DPWED and NGA Environmental were notified.	Valid Report, No Illicit Discharge, No corrective actions taken.	Closed 4/12/2019
19-40	4/24/2019	Direct Notification	N/A	DPW was notified of a spill at the Aleut Roads and Grounds facility by Adam Petrizza. A locksmith's van spilled diesel in their diesel filling area. The spill was on a cracked area of asphalt pavement/gravel.	he spill was on a cracked area of asphalt pavement/gravel. Aleut was onsite cleaning the spill up when I arrived. Aleut applied absorbent material, containerized it, and transported it to Building 1495. A site visit was performed and cleanup efforts were documented. The weathe was clear and the spill remained on the paved area	Valid report; No illicit discharge; Corrective action taken	Closed 4/4/2019
19-41	4/25/2019	Direct Notification	ISW Outfall 002	An AFFF discharge at the DAAF Fire Station fire training area at 11:20 am	1 shop vac to remove the puddles of water/foam, as well as a sod cutter to remove the top 2-3 inches of soil in areas where there was foam. The crew pumped down the puddles and removed the grass/soil in the areas I requested. The water was containerized in 3 55-gallon poly drums and the soil/solids were containerized in 7 55-gallon poly drums. These 10 drums were transported to Building 1495 Fort Belvoir Hazardous Waste 90-Day Collection Facility. Backfill seeding and strawing pending.	Valid report; illicit discharge; Pending Corrective Action	Closed 5/3/2019
19-42	4/27/2019	Direct Notification	N/A	AFFF foam was applied to the fire to extinguish it adjacent to the garage of 5980 Sitgreaves Road	Cdominion had contracted with Hepaco to remove the soil around the transformer that was possible contaminated with mineral oil/AFFF. Hepaco seeded and strawed the area.	Valid Report, No Illicit Discharge, Corrective actions taken.	Closed 4/28/2019

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
19-43	4/28/2019	Direct Notification	4697	An AFFF discharge at the DAAF Fire Station fire training area at 10:30AM on Sunday 28 April 2019. I was told that around 7:30AM there was an mechanical malfunction with Fire Engine 466 that caused the foam reservoir on the apparatus to leak or be pumped into the water tank on the apparatus, and then all of the water and foam was discharged from the engine by a firefighter. There was approximately 25 gallons of AFFF concentrate and approximately 500 gallons of water on the apparatus that was discharged during this incident.	water was removed from the concrete pad area puddles. There were conversations between DPW, Aleut, and Hepaco about the remaining water in the bioretention/pond stormwater facility. Hepaco had finished pumping out from the inlet that connects upstream to the trench drain (this is the water with the heaviest foam concentration), but there was still remaining water in the pool of the facility. removing the remaining water from the stormwater facility and (2) removing 2-3 inches of soil from all of the grass/soil areas that touched foam. Backfilling and seeding was confirmed on a May 2 2019 site visit	Valid Report, Illicit Discharge, Corrective Action Taken	Closed 5/2/2019
19-44	5/1/2019	Direct Notification	N/A	SSO discovered during a routine sanitary sewer lift station inspection	Accumulated effluent was pumped from the valve vualt, lime was added to affected areas	Valid report; No illicit discharge; Corrective action taken	Closed 5/3/2019
19-45	5/8/2019	Direct Notification	3648, 3631, 3646	Sanitary sewer manhole located off of Goethals Rd. in front of Bldg. 1839	Root blockage was removed via upstream jetting, surrounding area was spraayed and vac truck was used to remove water from site. Lime was then applied to affected area.	Valid Report; Illicit Discharge, Corrective actions taken.	Closed 5/9/2019
19-46	6/17/2019	DPW Inspector	ISW Outfall 005	There was a remodeling and demolition project occurring at building 1498, and 1499, trees were cut down , soil was disturbed, and garbage and building materials were left out in the open. Garbage and soil from disturbed land was transported into the wooded area to the south and via a concrete channel, and to the west via overland flow into the nearby wetland.	The contractor involved in the project was notified about the problem but refused to acknowledge. Further reports were filed up the chain of command at DPW. Corrective Actions were issued to the contractor and DPW is current monitoring progress of fixes through windshield inspections of the area	Valid Report; Illicit Discharge, Corrective actions taken.	Open
19-47	6/21/2019	Direct Notification	N/A	At approximately 1330 hours a radiator hose on a pump truck owned by HEPACO Inc. burst causing the loss of 3 to 4 gallons of coolant (antifreeze) onto an asphalt surface.	Aleut personnel were on hand when the leak occurred and Aleut personnel responded using absorbent litter to cover the spill area and absorb the coolant. The contaminated absorbent was picked up, containerized and brought to the Hazardous Waste facility (building 1495) on Fort Belvoir for proper disposal. No coolant reached a storm drain, sewer or non-pervious surface, i.e., soil. Weather conditions were: dry, mostly sunny, 78 degrees Fahrenheit with an NW wind blowing at 20 mph. The incident is closed.	Valid report; No illicit discharge; Corrective action taken	Closed 6/21/2019
19-48	6/25/2019	Public Notification	N/A	At 1105 on 25 JUN 2019 DPW received a phone call from Cheryl Fudge at the Tully Gate VCC informing me that a POV was leaking gasoline from its fuel tank. I called the Fort Belvoir Fire Department (FBFD) at 1107 and they told me that they had been informed and were responding. I than called Steven Sarver of Aleut to inform him of the situation and to ask him to have Aleut personnel respond for the clean-up. When I got to the VCC the FBFD had already spread absorbent litter over the spill (the spill was contained on an asphalt surface and did not enter a storm drain, sewer or soil. I spoke with Captain Daniel Oliver of the FBFD and he informed me that a Jeep Liberty which was parked at the VCC had a leaking gas tank. The gas tank was capable of holding 15 gallons of gasoline but was only one third full (confirmed by the driver).	The fire department plugged the leak with putty, stopping the leak. The vehicle was removed from the area by Redman Fleet Services which removed the vehicle on a flatbed truck. The weather conditions were fair, mostly cloudy with a temperature of 83 degrees Fahrenheit and a 9 mph wind blowing from the NW. Aleut personnel cleaned up the area containerizing the contaminated absorbent litter into a 55 gallon steel drum provided by the Hazardous Waste group at building 1495. The drum containing the contaminated material will be brought to the hazardous waste building for proper disposal. This incident is closed.	Valid report; No illicit discharge; Corrective action taken	Closed 6/25/2019
Total	**57**					**57**	**57**