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, 2021 - June 30, 2022

August 30, 2022

Reporting and QA/QC of Supporting Documentation
Completed By:

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VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VDPES)
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT
FORT BELVOIR ANNUAL REPORT
JULY 1, 2021 - JUNE 30, 2022

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, 2021 - June 30, 2022

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

The Director of Public Works, Mr. Bradford D. Britain, was present for the entirety of the reporting period but has moved on to a new position outside of Fort Belvoir as of July 17, 2022. Mr. Micah E. Boersma has been named the Director and has assumed all of Mr. Britain's duties. A delegation of signature authority is provided in Appendix A.

The MS4 Program Manager, Ms. Calli J. Kaufhold took over the program in January 2022 and can be reached at 703-806-0022. Ms. Kaufhold' s main role is to administer the MS4 Program to ensure compliance with the permit. She is assisted by the Stormwater Facility Maintenance Liaison, Mr. Ryan T Maisano who acts as between the Environmental and O&M Divisions.

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

There was one (1) new MS4 outfall brought online during the reporting period July 1, 2021 - June 30, 2022 due to new construction. The added outfall was within the Accotink Creek Watershed (HUC6 - PL30). Appendix B contains pertinent data for all new structures.

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."

Micah E. Boersma Director, Public Works	Date
VAR 040093	Fort Belvoir
MS4 Permit Number	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 three (3) strategies listed in Table 1 of the MS4 General Permit including: traditional written materials, media materials, and speaking engagements. These strategies were used to educate the public on key water quality issues applicable to Fort Belvoir with a focus on those associated with TMDLs, to include bacteria, nutrients, sediment, chloride, and FOG (fats, oils, and greases). Table 1 below summarizes activities conducted and the associated reporting data for the reporting period. Supporting documentation (articles, newsletters, brochures, etc.) is available upon request.

Table 1: Education and Outreach Activities (July 1, 2021 – June 30, 2022)

Traditional Written Materials				
Articles Published via The Housing Group Mass Notification System and/or Housing Facebook Posts Articles and Guides Distributed to the Housing Communities Across Fort Belvoir Total Number of Residences= 2,154[1] Total Population = 7,637[2]				
Date	**Issue**	**Audience**	**Title**	**Topic**
16-SEP-21	Litter, Bacteria, Fertilizers (Nutrients), Sediment	Email: 4,000[3]	*Stormwater Pollution Prevention at Ft. Belvoir*	10 Things You Can Do to Practice Stormwater Pollution Prevention
8-DEC-21	Chloride	Email: 4,000[3]	*Being Smart About Ice Melt*	Tips for Winter Snow Removal
07-APR-22 27-JUN-22	Nutrients	Email: 4,000[3] Facebook: 79[4]	*Spreading it on Too Thick?*	Proper use of fertilizers and picking up leaf litter to prevent decomposition
Newsletters and Brochures DPW Newsletter Distributed to High-Priority Facility Personnel Via Email[5] and Posted on Facebook[6] for the General Public. Brochures are posted at key locations to reach audiences where topics are applicable.				
20-SEP-21	Oils and Grease, Nutrients	Email: 80[5] Facebook: 60[6]	Fall Stormwater Newsletter	Winterizing Equipment, Fall Landscaping and Fertilization
16-DEC-21	Chloride, Sediment	Email: 82[5] Facebook: N/A	Winter Stormwater Newsletter	Salt Storage and application ESC/SWM requirements for construction projects

21-MAR-22	Sediment, Litter, Oils and Grease	Email: 97[5] Facebook: 50[6]	Spring Stormwater Newsletter	Outdoor material storage and dig permit requirements
21-JUN-22	Sediment, Detergents, Oils, Litter	Email: 94[5] Facebook: N/A	Summer Stormwater Newsletter	Wash waters and prevention of materials/wastes from entering storm drains
Ongoing	PCBs	Posted at Hunting/Hiking kiosks and on the iSportsman website: 45[7]	PCB Awareness for Hikers and Hunters	Brochure: *"The Dangers of PCBs and How You Can Help"*
Media Materials: Facebook Posts on @FortBelvoirEnvironmental Each post is monitored individually for the audience reached, See Appendix C.				
1-JUL-21 through 30-JUN-22	Various	~16 posts Average of 84 viewers[6]	*Various*	A wide variety of stormwater topics
Speaking Engagements: Presentations Interactive Displays and Stormwater Awareness Brochures Distributed during Events				
Date	**Issue**	**Audience**	**Event**	**Materials Distributed**
22-APR-22	Sediment, Detergent, Grease, Litter, Fertilizer (Nutrients) PCBs	50 Belvoir Residents in attendance 4 of each Brochure Distributed	Earth Day	Displays: *Common Stormwater Pollutants* *Litter & Plastic Pollution's Effect on Water Quality* *Stormwater Pollution Prevention Diorama* Brochures: *De-Tox Your House* *Protect Our Local Waterways* *10 Things You Can Do to Save the Bay* *Only Rain Down the Drain* *The Dangers of PCBs and How You Can Help* Children's Activity Book
19-MAY-22	FOG Detergents, Bacteria, Fertilizer (Nutrients) , PCBs	1500[8] Soldiers and Civilians in attendance 175 Brochures Distributed	Safety and Wellness Day	Displays: *Stormwater Trivia* Brochures: *De-Tox Your House* *Protect Our Local Waterways* *10 Things You Can Do to Save the Bay* *Only Rain Down the Drain* Prizes - Candy

[1] Number of Residences: Fort Belvoir Army Stationing and Installation Plan (ASIP) Fiscal Year (FY21) Summary
[2] U.S. Census Bureau 2020 Population data
[3] Phone conversation on August 5, 2022, between MS4 Program Manager, Calli Kaufhold and Housing Department Representative
[4] Facebook data on membership within this private group belonging to Woodlawn Village Mayor
[5] Distribution list/delivery from Industrial Stormwater Program Manager, Ashley C. McMahon
[6] Facebook Interaction Report, shown in Appendix C
[7] 903 people applied for fishing permits and had the chance to interact with the posted PCB Brochure on the iSportsman website: E-mail from Wildlife Scientist, Kevin Walter. Unable to determine actual number of people who opened link to PCB brochure; assumes 5% of people who applied for fishing license through website opened link. This number may be elevated from actual
[8] E-mail from PAIO USAG Fort Belvoir, Corey D. Howard

A list of education and outreach opportunities that may be employed during the next reporting period (July 1, 2022 – June 30, 2023) may be found in the most recent MS4 Program Plan.

ii. Review of MCM#1 Program Effectiveness:

For the reporting period, July 1, 2021 - June 30, 2022, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on November 1, 2018:

- Belvoir employed three (3) strategies from Table 1 of the MS4 General Permit to reach varied audiences. Various topics were addressed including the five (5) priority issues identified in the Program Plan.
- Fort Belvoir continued to develop effective avenues for reaching the residents of Fort Belvoir. In addition to using the mass email notification system that was used during the last reporting cycle, articles targeting the residents of Fort Belvoir were also posted on the Woodlawn Village Mayor Facebook page and The Villages at Belvoir Facebook page as another way to reach this audience.
    - Three (3) articles were distributed via One Call Now, the mass email notification system used by the housing group. Articles cover seasonally topical pollution prevention techniques and promote the use of best management practices to housing residents.
    - One (1) of these articles was also posted on the Woodlawn Mayor Facebook page and on The Villages at Belvoir Facebook page hopefully resulting in higher viewership.
- DPW Environmental continued to publish its quarterly newsletter, which was distributed via email to High Priority Facility personnel and via Facebook to the public.
- DPW Environmental maintained avenues to ensure a wide distribution of educational materials through the dedicated @FortBelvoirEnvironmental Facebook page. DPW Environmental also maintained control over the home page which assisted in better control of posting information and plans, although all edits are routed through Public Affairs Office (PAO) prior to publishing.
- As COVID-19 restrictions and gathering guidelines eased and as the public gradually became more accustomed to interactions post-pandemic, DPW Environmental was able to participate in more in-person events as well as maintain public interaction on the virtual stage. The in-person speaking events included Earth Day and Safety and Wellness Day
    - An Earth Day Celebration was held in-person on April 22, 2022. Fifty residents attended the event and learned about the need to reduce sediment, detergent, grease, and litter in our waterways through brochures and interactive displays.
    - The Public Affairs Office (PAO) held Safety and Wellness Day on May 19, 2022, with 1,500 soldiers and civilians in attendance. Fort Belvoir Environmental Division educated participants using brochures and interactive displays, including the popular Stormwater Trivia Game with prizes for correct answers.

BMP 1.1 for the Public Education and Outreach MCM continues to remain effective and utilizes various communication media (Email mass notification, Housing Facebook pages, newsletters, brochure distribution to targeted audiences, Environmental Division Facebook page, speaking engagements) available within the Fort Belvoir organization. The inherent flexibility of the plan provides for many opportunities to reach the public without being so prescriptive as to limit growth and innovation in how the program is run. How Fort Belvoir achieved compliance with the measurable goals for MCM #1 based on the Program Plan is discussed below.

BMP 1.1 Implement a Public Education and Outreach Plan:

The Education and Outreach Plan, contained within the Program Plan, is designed to increase public's knowledge on how to reduce stormwater pollution and the hazards associated with illegal discharges and improper disposal of wastes, including pertinent legal implications. The Plan places priority on reducing impacts to impaired waters and other local water pollution concerns for the areas surrounding Fort Belvoir with the five main stormwater issues being those associated with local TMDLs, including bacteria, nutrients, sediment, chloride, and FOG (fats, oils, and greases). The Plan calls for the implementation of a diverse program with a variety of strategies that can be targeted toward individuals or groups most likely to have significant stormwater impacts.

The plan outlines multiple strategies that will achieve the conditions listed in Permit Part I.E.1.b,c, and d and how materials developed will:

1. Clearly identify one or more of the high priority water quality issues noted above
2. Explain the importance of the high-priority stormwater issue
3. Include measures or actions the public can take to minimize the impact of the high-priority stormwater issues
4. Provide a contact and telephone number, website, or location where the public can find out more information.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to annually review and revise the Education and Outreach Plan, as needed, was met.

- The Public Education and Outreach Plan was reviewed during the 2021-2022 reporting period, and found it adequately met all goals and remained effective. On October 22, 2021, the Plan was updated to reflect current high-priority issues and new TMDLs which action plans were developed for in 2021. This update also expanded on the types of available strategies that could be used for the MS4 Program. Additionally, Table 5 was updated to be a "Tentative" instead of proposed schedule, to reflect Seasons instead of Months, and to provide a list of educational opportunities and topics instead of just a strategy. The goal of the update was to provide options for activities without being so prescriptive as to limit growth and innovation in how the program is run.

The measurable goal to annually utilize two or more of the public education and outreach strategies that meet Permit Part I.E.1.b,c, and to communicate to the public the high priority stormwater issues identified and how to reduce stormwater pollution was partially met.

- Belvoir employed at least three (3) strategies from Table 1 of the MS4 General Permit to reach varied audiences. Various topics were addressed including the five (5) priority issues identified in the Program Plan: bacteria, nutrients, sediment, chloride, and FOG (fats, oils, and greases) as well as PCBs, littering, and detergent use.

- The Facebook page, @FortBelvoirEnvironmental , was used about 16 times during this reporting period to address pollutant-specific topics, post quarterly newsletters, announce clean-ups and other events, and to thank volunteers. Postings were seen by an average of 84 viewers per post throughout the year.

- BMP Factsheets for common operations are used to ensure proper guidance is being provided to assist tenants in making operational decisions that may help minimize exposure to stormwater. The BMP Fact Sheets are also distributed on an as needed basis to individuals and/or tenant commands when issues are noted during inspections or additional guidance is requested.

- DPW Environmental continued to team with the Conservation group and the Directorate of Moral, Welfare, and Recreation (MWR) to passively distribute Stormwater Pollution prevention brochures to the public.
    - PCB Brochures, *The Dangers of PCBs, and How You Can Help: Learn how you can protect Yourself, your Family, and the Environment,* continue to be posted on trail heads and hunting kiosks to provide information to hikers and hunters on how to identify and report potential PCB containing equipment (i.e. old transformers), especially in remote areas of the installation.
    - The brochure *PCB Safety and Awareness* is also still available online in the iSportsman website. The iSportsman website is the access portal for hunting, fishing, and watercraft recreation at Fort Belvoir. The fishing page displays the brochure to make fishermen aware of PCBs and fish consumption. A total of 903 fishing licenses were applied for via the iSportsman website during this reporting period. Each license application is an opportunity for the public to interact with the brochure.
- Fort Belvoir provides multiple avenues for the public to get in contact with subject matter experts and/or to report pollution sources. Although these avenues were available, they were not always functional and/or may have provided out of date contact information to the public.
    - MS4 Contact information is located on The Fort Belvoir Environmental Division Webpage and provides a constant open channel for contacting the DPW Stormwater Program. Although the site was set up and contact information was provided, it was noted as having incorrect numbers and emails multiple times during the reporting period due to Army pushing updates that would revert the site back to listing older information. It should be noted that although the MS4 number may have been incorrect sporadically, the posted number would still connect to the environmental office where calls could be routed to the correct person.
    - The Pollution Reporting Button added to the website on October 27, 2020, to provide the public with a way to directly notify the Stormwater Program of any potential issues remains in place. However, a July 2022 test of the button determined that it was not functioning properly at the time. It is unknown when functionality was interrupted. Repair to the button was completed on August 10, 2022. To prevent future issues an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality.
    - Contact information was provided in Brochures and Newsletters distributed but were not updated when there were changes in phone numbers or emails. Fort Belvoir plans to update all brochures and newsletters with new information prior to further distribution.
    - Some Articles published provided a contact and telephone number, website, or location where the public could find more information, but others did not. Fort Belvoir will ensure that contact information is provided in future articles.

The measurable goal to utilize at least one (1) strategy each season to provide the public topical information on the impacts their activities can have on stormwater runoff and measures or actions they can take to minimize that impact was met.

- Four (4) Seasonal Stormwater Newsletters were developed to cover high priority water quality topics like chloride, sediment, litter, and nutrients. The newsletter provided updates on permit compliance activities, trainings, and pollution prevention, including seasonally appropriate topics (i.e. de-icing in December, wash waters in June).

- The newsletters explained the importance of preventing the 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 utilize to minimize stormwater runoff pollutants.
- Newsletters were distributed to ISW permitted tenants, MS4 HPF tenants, and published to the Environmental Division Facebook page.
- Newsletters were published on September 20, 2021; December 16, 2021; March 21, 2022; and on June 21, 2022.

- DPW Environmental continued to coordinate with the Housing Group as an avenue to distribute information directly to Fort Belvoir Residents during this reporting cycle. The Housing Group utilizes the mass notification system, One Call Now, to communicate with all residents via email. Additionally they maintain dedicated Facebook pages to communicate with residents.
  - A Fall article *Stormwater Pollution Prevention at Fort Belvoir* was distributed on September 23, 2021, and covered background information on sources of stormwater pollution, as well as listing ten things that the reader can do to practice stormwater pollution prevention.
  - A Winter article *Being Smart About Ice Melt* was distributed on December 8, 2021 and covered harmful effects of ice melt on local streams, practices for use of ice melt, and provided tips for minimizing chlorides in stormwater runoff by using shoveling, sweeping, and proper application/storage.
  - A Spring article *Spreading It on Too Thick?* was distributed in the Housing monthly Newsletter for April via One Call Now and the Housing Facebook pages on April 7, 2022 and provided tips for fertilizer application to minimize nutrients in stormwater runoff.
- As COVID-19 restrictions and gathering guidelines eased, Belvoir was able to participate in more in-person events where presentations to housing, military, civilian, and contractor personnel living and working on Fort Belvoir could be used to educate the public on critical stormwater issues and their role in preventing pollutants from entering waterways. DPW participated in two (2) events where interactive displays were used to communicate stormwater topics to the public.
  - Earth Day was held on April 22, 2022 at the Natural Resources Education Center and families participating were able to interact with displays covering Common Stormwater Pollutants, Litter & Plastic Pollution's Effect on Water Quality, and a Stormwater Pollution Prevention diorama. Approximately 50 people visited the displays and interacted with Stormwater personnel. Copies of stormwater educational materials were made available and included multiple brochures and Children's Activity Pages.
  - Safety and Wellness Day was held on May 19, 2022, at the Fort Belvoir Exchange and provided an opportunity to interact with military and civilian personnel living and working on Fort Belvoir. Approximately 1,500 people attended the event. DPW Environmental' s display provided attendees an opportunity to play a stormwater trivia game for candy prizes. Copies of stormwater educational materials were made available and included Brochures and Pamphlets. A total of 175 brochures were handed out during the event.

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.

Input Received on the MS4 Program

The MS4 Stormwater Program did not receive any comments on the Program Plan posted on the website during the 2021-2022 reporting period. Updates to the Program Plan were completed on November 5, 2021 and it was posted on the website for comment on November 10, 2021.

The 2021-2022 Annual Report was posted on the website on October 14, 2021; No Comments were received from the public. VADEQ requested additional information and/or clarification in a letter dated January 18, 2022. Fort Belvoir submitted a response to these requests to VADEQ on February 8, 2022. A Summary of the VADEQ requests and Fort Belvoir responses are as follows:

- VADEQ requested that any MS4 training of employees with respect to their job duties be listed under MCM6 and not MCM2. Fort Belvoir has reviewed all reported events and ensures that training targeting the public and not required for an employee's job title is reported under MCM2 and training required for the job title is reported under MCM6.
- VADEQ noted that the MS4 Program Plan was not available on the website. Fort Belvoir logged on to the website and noted that the file, which had originally been uploaded on November 10, 2021, had in fact been lost during a recent update pushed across Army sites. Fort Belvoir immediately started working on getting the file through PAO and re-published on the site. On January 21, 2022, the file was back up on the website and available for comment.
- VADEQ requested an explanation regarding the benefit to water quality for each activity completed under MCM2. Fort Belvoir noted that this was already included in the report but will be more clearly stated in the descriptions discussed below under Part I.E.2.f (3) and (4).
- VADEQ requested they be notified once the Stormwater System map had been updated as this was not completed last cycle due to staff shortages. Fort Belvoir noted that on December 9, 2021, the MS4 map was updated to include points for new facilities installed during the 2020-2021 reporting period. Additionally, multiple other data gaps were identified and updated in the GIS layers as discussed in Section 2.c.i of this report.
- VADEQ requested information on the procedures for repairs to outfalls identified during outfall screenings. Procedures for the implementation of repairs are discussed under the continued outfall monitoring section discussed under MCM3 in Section 2.c.ii of this report. Additionally, a maintenance and repair tracker has been added to the Outfall Reconnaissance Inventory (ORI) Summary Table in Appendix D.
- VADEQ requested a discussion of inspection and enforcement procedure for projects >2,500 and <10,000 square feet (subject to the Chesapeake Bay Preservation Area Designation and Management Regulations) be included. Fort Belvoir noted that it was receiving conflicting guidance between the regulations and Army Environmental Command on how these sites should be managed. Fort Belvoir added a section covering how these sites are currently handled under MCM4 in Section 2.d.i.
- VADEQ requested information on any enforcement taken regarding maintenance of stormwater management facilities. Fort Belvoir added a discussion of any enforcement actions taken under MCM5 in Section 2.e.iii of this report which details significant maintenance, repair, or retrofit activities performed on publicly owned SMFs

- VADEQ requested information on whether all SMF inspectors were certified/licensed. Fort Belvoir noted that 2020-2021 SMF inspections at NGA were not completed by licensed personnel. Fort Belvoir noted that the Base Operations Contractor was responsible for completing these inspections using their licensed personnel and that DPW Environmental would ensures this occurs in the future.
- VADEQ requested information on street cleaning calculations showing the methodology used and total MS4 acres/lane miles cleaned in FY2021 and noted a discrepancy between acres reported within the BMP Warehouse. Fort Belvoir noted that the discrepancy between the report and the BMP Warehouse is due to only a single sub-watershed (the lower Accotink Creek) being reported within the warehouse. Fort Belvoir lacked all the required information to report for all watersheds during the 2020-2021 cycle, and therefore decided to under report to the Warehouse. Fort Belvoir has since worked on splitting the total acres swept monthly by watershed and updated methodology according to Appendix V.G of the Chesapeake Bay TMDL Special Condition Guidance, dated 2020. This is detailed in Section 3 - Chesapeake Bay TMDL Information.

Fort Belvoir maintains all TMDL action plans posted on the website and available to the public. Although no comments were received from the public, VADEQ requested additional information, made recommendations, and proposed additional requirements pertaining to the Accotink Creek (Lower) E. coli TMDL Action Plan, the Tidal Potomac and Anacostia River Watershed PCB TMDL Action Plan, the Accotink Creek Sediment TMDL Action Plan, and the Accotink Creek Chloride TMDL Action Plan. Details on these comments and Fort Belvoir responses are covered under Section 4 – Local TMDL Information of this Annual Report.

Stormwater Complaints received during the 2021-2022 Reporting Period

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. Fourteen (14) complaints were direct notifications made by someone outside of DPW trained staff. Incidents 22-03, 22-04, 22-15, 22-16, 22-17, 22-18, 22-19, 22-21, 22-31, 22-33, 22-34, 22-35, 22-38, and 22-42 are discussed below:

- **22-03:** On August 9, 2021, staff from the museum (NMUSA) notified DPW that a vehicle hit the barricade at the NMUSA security booth/gate and damaged the vehicle oil pan. The resulting leak extended from the most concentrated area at the security booth/gate to the northern portion of the museum parking lot where the vehicle was parked. Response personnel used absorbent granular material to clean up the leak, and spill material was placed in a drum for proper disposal. No contamination was noted as entering storm drains, soils, or state waters. Incident was closed on August 9, 2021.
- **22-04:** On August 31, 2021, an individual notified DPW of a soil stockpile at the Dogue Creek Bridge Project that may contain contaminated soils and may have the potential for erosion into Dogue Creek. DPW ESC-trained personnel investigated and determined that the soil stockpile was adequately protected with silt fence and covered with an impermeable liner. Project contractor was instructed to continue to keep the pile covered until soil test results were returned, and then soil stockpile could be removed for proper disposal. Incident was closed on August 31, 2021.
- **22-15:** On December 29, 2021, DPW was notified by the Base Ops contractor of a spill within the maintenance bay of Building 1420 and along the eastern side of the building along Jackson Loop. The spill consisted of approximately 2-3 gallons of hydraulic fluid and gasoline. The source was a contractor maintenance truck that had a severed hydraulic line (hydraulic fluid) and was carrying two backpack leaf blowers which tipped over (gasoline). A portion of the spill was near an area inlet, structure 2083. The contractor reported that no sheen was seen within this structure, and

DPW personnel investigated and confirmed. Granular absorbent material was used to clean up the spill, and spill material was placed in a drum for proper disposal. Incident was closed on December 29, 2021.

- **22-16:** On January 10, 2022, DPW was notified by American Water that a Sanitary Sewer Overflow (SSO) occurred from a force main near Lift Station (LS) 1575 in George Washington Village. The surrounding grounds were already wet from rains and snow melt making it difficult to estimate leakage, with estimates ranging from one hundred to several hundred gallons into the grass. Contractor was unsure if leak made it into the storm drains or State Waters. Bypass operations as well as measures to protect storm drains were put in place immediately. Contractor filed a DEQ Pollution Report with Incident #302358. All repairs and soil stabilization were completed as of January 21, 2022. Incident was closed on January 21, 2022.

- **22-17:** On January 12, 2022, DAAF personnel notified DPW that approximately 5+ gallons of JP-8 helicopter fuel was leaked onto helicopter parking spot #10 at the Alpha ramp. The spill occurred on the concrete surface due to overfilling of a helicopter tank. No fuel entered soils or waterways. Granular absorbent material was used to clean up the spill. Incident was closed on January 13, 2022.

- **22-18:** On January 17, 2022, a resident reported a large tree that had fallen on a 12" aerial sewer main located between Buildings 80 and 81 and Lift Station (LS) 97. The pipe broke and raw sewage spilled into a tributary to the Potomac below it. Bypass operations were put into place immediately. Due to the location of the incident, it is unknown how long the pipe had been broken, and the rough estimate of leakage is 19,000 gallons. A DEQ Pollution Report was submitted with incident #302514. VADEQ forwarded information to Virginia Department of Health (VDH) due to the amount and nature of the spill. All repairs and soil stabilization were completed as of March 17, 2022. Incident was closed on March 17, 2022.

- **22-19:** On January 19, 2022, DPW was notified by the Base Ops contractor that during refueling of the heating oil tank at Building 1810 an overflow of approximately 2 gallons of heating oil occurred on the grassy area adjacent to the fuel port. The spill was cleaned up with absorbent pads and 1-2 inches of impacted soil was removed from the spill area; pads and soil were placed in a drum for proper disposal. Area was backfilled with clean soil, and area was seeded and mulched to stabilize. Incident was closed on January 25, 2022.

- **22-21:** On February 1, 2022, the Base Ops contractor notified DPW that another contractor was trenching at Building 1462 with no ESC measures in place. DPW personnel investigated and informed contractor that silt fence should be installed immediately on the down-slope side of any trenching activities and that work should halt until a Dig Permit is submitted to and approved by the DPW. Dig Permit 22-081 was submitted for the work. Incident was closed on March 9, 2022.

- **22-31:** On March 4, 2022, personnel from Building 330 reported a sanitary sewer overflow (SSO) at a manhole within the 300 area. The SSO and inside the manhole were vacuumed with a vac truck, line was jet cleaned to clear blockages (suspected to be rags), and area was cleaned up. Team confirmed that all discharge was on the street, and none entered state waters, soils, or any storm drains. SSO is estimated at 15-20 gallons total. Manhole will be kept on a watch list as the reason for the SSO was not fully determined. Incident was closed on March 4, 2022.

- **22-33:** On March 31, 2022, DPW was notified by personnel at DAAF of a hydraulic fluid spill at the control box for the activated barrier just outside of Farrar Gate. The spilled hydraulic fluid filled up the well of the activated barrier and went into the adjacent grassy area. Absorbent booms were installed in the flow path downhill of the spill, and the area was covered with tarps to prevent

contact with rainwater pending cleanup, which will require soil removal and re-stabilization. DPW is tracking this incident.

- **22-34:** On April 4, 2022, American Water notified DPW that they had found a sanitary sewer overflow (SSO) during a drive-by inspection. An estimated 35 gallons of sewage was noted coming out of a manhole off Morrow Road near Theote Road. The SSO did not reach state waters or any stormwater drains. SSO was cleaned up with the use of a vacuum truck, line was jetted to clear blockage, which was caused by roots from nearby vegetation, and the manhole was placed on hot list for increased inspections to confirm that jetting corrected the issue. A VADEQ Pollution Report was filed as a precautionary measure, Incident #303976. Incident was closed on April 7, 2022.

- **22-35:** On April 8, 2022, personnel from Building 330 reported that a sanitary sewer overflow (SSO) had occurred adjacent to Building. The estimated overflow was 20 gallons and was contained to cement and asphalt areas. There were no discharges to waterways or stormwater structures. A blockage of rags and paper towels was removed. Building personnel agreed to post signs as a reminder not to flush these items. SSO was vacuumed up with a vac truck, and area was cleaned up. The manhole was placed on a hot list for weekly inspections as well as scheduled to be camera inspected during the week of April 11, 2022. The camera investigation was completed and noted slight root buildup, but no associated blockage. American Water determined the root cause of the blockages and SSOs that occurred on both March 4th and April 8th was due to rags/wipes from painting activities being flushed into the sewer system. A VADEQ Pollution Report was filed as a precautionary measure, Incident #304057. Incident was closed on April 8, 2022.

- **22-38:** On May 16, 2022, personnel of AMSA 91 reported a spill of three (3) quarts of hydraulic fluid to DPW. Spill was contained on asphalt, immediately cleaned up, and reported. There was no discharge to waterways or stormwater structures. Onsite personnel were reminded that any parts replacements or adjustments should be conducted within the shop building. Incident was closed on May 17, 2022.

- **22-42:** On June 16, 2022, DPW was notified by DLA that a kitchen subcontractor for Building 2462 had a broken line on their truck resulting in leakage of used kitchen oil on Fort Belvoir and on several miles of roads outside of the installation. DPW personnel observed the trail of used cooking oil over approximately 3.86 miles of roadway - mostly outside of the garrison, determined that the leak was present prior to the truck entering Fort Belvoir, and estimated the leak at 100 gallons. No oil was observed having reached any storm drains, however, oil was tracked on the roadways from subsequent driving. Given the wide spread of the leak and the heavy traffic in the area tracking the oil thin, DPW personnel determined that cleanup efforts would be ineffective. Incident was closed on June 27, 2022.

Open Stormwater Complaints from 2020-2021 reporting cycle

- **21-15:** On December 28, 2020 DPW Staff received a notification from a hunter of a landslide and water flowing along the old railroad tracks behind building 1457. During DPW staff investigation a stormwater pipe/conveyance (Outfall 3011) that goes under the road was found to be broken. Water was seeping through making the road unstable and causing the landslide. An Investigation Report was prepared with recommendations submitted to DPW Leadership on December 30, 2020. This incident was also included in the Maintenance schedule to be repaired when funding becomes available. On May 20, 2022, the work order was assigned a project manager within the O&M division that would be responsible for getting quotes and ensuring the work gets completed. DPW is tracking the work request, the incident will remain open until the pipe has been repaired.

- **21-45:** On May 14, 2021, a resident reported via email to the MS4 Program Manager that there was a large amount of trash in Colyer Village behind 5823 Peterson Loop. The MS4 Program contacted "The Villages at Fort Belvoir" to publish another Stormwater article in the "Belvoir Resident Newsletter" that addresses Stormwater pollution due to trash and illicit discharges to achieve awareness within the resident population. In October 2021, the Education and Outreach plan was updated to include articles in the Resident newsletter to increase awareness in the housing districts and to coordinate more cleanup events with the housing community. Three articles were published and distributed directly to housing residents during the 2021-2022 cycle. A follow-up inspection of the area occurred on May 27, 2022 and found improvement in reducing dumping in the area but that a large car engine remains in the woods. Housing is working on getting it removed. The incident is pending removal of the Engine block and will remain open until it is removed.

- **21-46:** On May 24, 2021, DPW was notified of a leaking aboveground storage tank at Building 1412. During the investigation DPW observed a compromised 500 gallon tank containing diesel fuel. The Fire Department utilized a golf tee to plug a small hole at the bottom of the tank to stop the leakage. Granular absorbent material and spill pads were utilized to contain the spill, but there was evidence that the spill had reached the surrounding soils. There was an adjacent stormwater drop inlet approximately 60 feet to the northeast of the compromised tank/spill area. The stormwater inlet was checked periodically for the duration of the spill event for any observable sheens. No sheens were observed therefore, it is assumed that no fuel reached any water bodies. The contaminated soils have been dug up and the soil has been tested and removed from the site to be disposed of at an approved disposal site. Between March and April 2022 the tank was drained, and affected soils were excavated and sampled with results sent to VADEQ, which approved closure of the incident on April 28, 2022. The site is currently awaiting backfill and final stabilization, the incident will remain open until stabilization is complete.

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

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

Copies of the MS4 Program Plan, this annual report, and any other pertinent stormwater documents are posted on the Fort Belvoir Environmental website under the Programs and Documents, then MS4 Stormwater. Goals within the Program Plan include making documents available to the public by posting to the website within 30 days of any updates.

The website is used to provide the public with access to all required MS4 Documents required under Part I.E.2.b of the Permit to include the Program Plan, Annual Reports, TMDL Action Plans, Technical Bulletins and Stormwater Pollution Prevention information. An on-line Pollution Reporting button was added to the Environmental website on October 27, 2020 to allow anyone on Fort Belvoir to report illicit discharges more easily. Contact information for the Stormwater Team is also posted on the website.

As noted in MCM1 discussions, the website has been experiencing technical issues as the Army pushes out updates throughout all standardized Department of the Army Facilities' webpages. This has led to issues such as delays in postings, losing file links, reverting to earlier site versions/information, and loss of functionality that effected access to program documents sporadically throughout the reporting period. Repairs to the website are ongoing and done outside of Fort Belvoir purview; therefore, to mitigate any future issues with accessibility an update to the Program Plan BMP 2.1 will be made to require a minimum of quarterly checks of information and links by DPW Environmental to ensure functionality or early identification of issues.

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 the activities are beneficial to improving water quality.

Over four (4) public involvement activities were conducted during the 2021-2022 reporting cycle from the Pollution Prevention, Restoration, Educational Event, and Monitoring categories.

- Pollution prevention activities included educating the public via articles published through the various avenues and distribution of Pollution Prevention Brochures. To improve water quality, individuals must have awareness of issues (what), an understanding of how it impacts them or something they care about (why) and be empowered with the knowledge of what they can do (how) to change their behaviors. The ultimate intent of all articles and brochures is to educate, encourage, and empower the audience to implement best management practices, to be more alert to potential pollution concerns in their daily activities, and to report potential issues to DPW for investigation.

  Effectiveness of these activities is measured by the number of publications and the number of people reached through each publication as well as the number of brochures distributed. The number of reports or questions received from resident or recreational customers via contact information provided in published materials also serves as a metric.

  - Publication of numerous articles to a large distribution of people with consistent messaging continued during this reporting cycle.
  - Brochures were distributed both actively during educational events and passively as hiking kiosk postings and website links.
  - Fourteen (14) public complaints were received during this period. The substance of the public complaints received indicates that the publication of articles and distribution of brochures is beneficial to improving water quality.
- Restoration activities included four (4) clean-up events, which produced immediate results through the removal of trash already effecting water quality in streams. Effectiveness of these events are measured by the number of volunteers involved and the amount of trash collected.
  - International Coastal Clean-up, Potomac Watershed Clean-up, Earth Day Clean-up, and Cub Scout Troop Clean-ups were four (4) separate events where the public was able to get involved in cleaning up the Tidal Basin. A Total of 96 volunteers participated in the clean-ups and collected a total of 92 bags of trash.
- Planting events (Restoration) are beneficial to improving water quality by removing or limiting potential erosion that may contribute to sediment pollution. Effectiveness of these events are measured by the number of volunteers involved and number of plantings completed
  - National Public Lands Day consisted of an effort where ten (10) volunteers helped to clear invasive vegetation, grade the area, install bed frames and topsoil, and plant native plants. Plantings consisted of a total of 46 plants including viburnums and American hazelnut as well as seeding the area with wildflowers. This new area not only reduces potential erosion, but native plantings tend to have deeper rooting structures which also limits overall runoff from rain events.

- Educational events serve as a means of raising awareness of water quality issues and why they are important and promoting improved practices. The aim of this awareness and knowledge is to change public behaviors that impact water quality, making these events very beneficial to improving water quality. Effectiveness of these events are measured by the number of attendees and the number of brochures handed out.
    - The Earth Day Celebration consisted of DPW Environmental Personnel interacting with and educating the public via three (3) displays that: identify common stormwater pollutants, explain how litter and plastic pollution effects water quality, and displays how various pollutants end up in our waterways. Five (5) different brochures as well as children's activity pages were available for participants. Fifty (50) residents attended this event and four (4) of each brochure were handed out.
    - Fort Belvoir Safety and Wellness Day was attended by approximately 1,500 soldiers and civilians. Fort Belvoir Environmental personnel educated participants with brochures and a Stormwater Trivia Game with prizes for correct answers. Five (5) different brochures were available for participants, and a total of 175 brochures were handed out during the event.
- The online 'Pollution Reporting' button/ form (Monitoring) on the Environmental website provides an avenue for the public to anonymously report potential pollution sources and concerns directly to DPW. This strategy complements the Education and Outreach Plan by working to increase the number of people across the installation who are alert to potential pollution sources, and empowering and equipping them to report concerns. Supporting a larger group of people who are monitoring for potential pollution sources benefits water quality. Effectiveness is measured by the number of reports received via the online reporting system.
    - As noted earlier, a July 2022 test of the button determined that it was not functioning properly at the time. It is unknown when functionality was interrupted, but no reports were received via the button during this reporting period.
    - Ongoing technical issues may have rendered the button ineffective during this reporting period but is not indicative of the effectiveness of the overall strategy. Repair to the button was completed on August 10, 2022. To prevent future issues an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality.

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, 2021- June 30, 2022)

Date	Name of Event/Activity	Category from Permit Table 2	Metric
16-SEPT-21 8-DEC-21 7-APR-22	Articles published in Housing Newsletter promoting Residential BMPs	Pollution Prevention	Email distribution: appx. 4,000
25-SEPT-21	National Public Lands Day	Restoration	Volunteers: 10 Native Plants Planted: 46
16-OCT-21	International Coastal Clean-up	Restoration	Volunteers: 6 Bags of trash collected: 17
16-APRIL-22	Potomac Watershed Clean-up	Restoration	Volunteers: 45 Bags of trash collected: 54

Date	Name of Event/Activity	Category from Permit Table 2	Metric
22-APRIL-22	Earth Day Celebration	Educational Event	Attendees: 50 residents Displays: 3 Interactive Displays Brochures: 20 distributed
22-APRIL-22	Earth Day Celebration Clean-up	Restoration	Volunteers: 6 Bags of trash collected: 6
23-APRIL-22	Cub Scout Troop Clean-up	Restoration	Volunteers: 39 (25 Scouts, 14 Parents) Bags of trash collected: 15
19-MAY-22	Safety and Wellness Day	Educational Event	Attendees: 1500 Soldiers/Civilians Displays: 1 Interactive Display Brochures: 175 Distributed
Ongoing	Anonymous Online Pollution Reporting Button/ Form	Monitoring	0 Reports Received

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

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

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

v. Review of MCM#2 Program Effectiveness

For the reporting period, July 1, 2021 - June 30, 2022, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on November 1, 2018:

- Fort Belvoir has provided multiple methods for the public to report illicit discharges, improper disposal, spills, and other complaints as required by Part I.E.2.a.(1).
    - Potential pollution issues have always been able to be reported to DPW via a phone call or email.
    - The Pollution Reporting Button added to the website on October 27, 2020, to provide the public with a way to directly notify the Stormwater Program of any potential issues remains in place. However, a July 2022 test of the button determined that it was not functioning properly at the time. It is unknown when functionality was interrupted. Repair to the button was completed on August 10, 2022. To prevent future issues an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality.
- The public can provide comments and input on the Program Plan any time via phone or email as required under Part I.E.2.a.(2).
    - MS4 Program Plan was updated to incorporate recommendations from the 2020-2021 Annual report on November 5, 2021. The updated MS4 Program Plan was posted to the website and made available for public comment on November 10, 2021.
    - The Program Plan was updated concurrently with this Annual Report and will be posted on the Fort Belvoir Webpage within 30 days of final updates.

  - Updates to Army servers resulted in the MS4 Program Plan being removed or unlinked from the Environmental Division website twice during the reporting period. Upon notification/discovery, the file was re-uploaded/re-linked as quickly as possible after both incidents. As noted above, repairs to the website are ongoing and done outside of Fort Belvoir purview; therefore, to mitigate any future issues with accessibility an update to the Program Plan BMP 2.1 will be made to require a minimum of quarterly checks of information and links by DPW Environmental to ensure functionality or early identification of issues.

- Fort Belvoir maintains a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention, as required by Part I.E.2.b. located here: Fort Belvoir Environmental website under the Programs and Documents, then MS4 Stormwater. The website is used to provide the public with access to all required MS4 Documents to include the Program Plan, Annual Reports, TMDL Action Plans, Technical Bulletins, and Stormwater Pollution Prevention information
  - As noted previously, multiple updates to the Army servers presented a challenge during this reporting period as some files were delayed in being posted, lost file links, or lost functionality due to an update. Fort Belvoir DPW must contact the Public Affairs Office (PAO) for PAO to upload/re-link files. Once aware of these issues, Fort Belvoir DPW responded quickly and tracked any issues until resolution. Four (4) incidents believed to be related to server updates occurred during this reporting period:
    - Posting of the 2020-2021 Annual Report was delayed from the planned October 1, 2021, posting to October 14, 2021.
    - The Final Sediment TMDL Action plan was re-posted on November 10, 2021 after being lost due to server updates.
    - A January 18, 2022, letter from VADEQ notified Fort Belvoir DPW that the current MS4 Program Plan could not be located. Upon notification, the file was re-uploaded to the website and was made available to the public on January 21, 2022.
    - The link to the MS4 Program Plan was repaired a second time upon discovery of another link error on February 16, 2022.
  - The 2020-2021 Annual Report was posted on the Fort Belvoir website on October 14, 2021, as required by Part I.E.2.b.(3) of the permit.
  - An updated Program Plan was posted on the website on November 10, 2021.
  - Updated MS4 contact numbers were provided on the website on November 10, 2021.
  - The PCB TMDL Action Plan was updated with new site statuses and results of any sampling completed and was posted on November 10, 2021.
  - Updated MS4 contact numbers were provided on the website on June 29, 2022.
- Fort Belvoir conducted nine (9) public involvement activities as described above from four (4) different categories listed in Table 2 as required by Part I.E.2.c of the MS4 General Permit.

All BMPs (BMP 2.1 and 2.2) for the Public Involvement/Participation MCM continue to remain effective and meet permit requirements. As detailed above, Army server updates presented website challenges during this reporting period. Updates to the MS4 Program Plan have been made to mitigate any future issues with accessibility to files and to ensure that Belvoir continues to meet permit requirements. How Fort Belvoir achieved compliance with the measurable goals for MCM #2 is discussed below.

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

The current webpage provides public access to all MS4 Program Documents required under Part I.E.2.b of the Permit, including the effective MS4 Permit and coverage letter, Current Program Plan, and annual reports for each year of the terms covered by the current permit. The webpage also provides methods for how the public can provide input on the permittee's MS4 program plan as well as a mechanism for the public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns. The MS4 Stormwater Program Administrator is responsible for ensuring that all permit-required MS4 Stormwater Program documents are posted on Fort Belvoir Environmental website under 'Programs and Documents' and then 'MS4 Stormwater Program'.

Additionally all developed TMDL Action Plans, Technical Guidance Bulletins for Construction Projects, and Fact Sheets covering over 25 Operational Best Management Practices are made available on the webpage. (Fact Sheets and Master SWPPP are located under the Industrial Stormwater or ISW tab on the webpage.)

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to maintain a webpage with the effective MS4 Permit and coverage letter, Program Documents, and annual reports for each year of the terms covered by the current permit and to post copies of each annual report on the Fort Belvoir webpage within 30 days of submittal to the VADEQ was met.

- The MS4 Permit and coverage letter, the most current MS4 Program Plan, and annual reports are made available to meet the permit requirements specified in Part I.E.2 for public involvement and participation.
- All Annual reports for this permit cycle are available on the webpage. The 2020-2021 Annual Report was submitted to VADEQ on October 1, 2021 and posted on October 14, 2021. This 2021-2022 Annual report will be posted within 30 days of submittal to VADEQ.
- On November 10, 2021, multiple updates were made to the website including contact numbers, TMDL plans, and the Current Program Plan.
- As noted previously, multiple updates to Army servers presented a challenge during this reporting period as it led to issues such as losing file links, reverting to earlier site versions/information, and loss of functionality that effected access to program documents sporadically throughout the reporting period. Repairs to the website are ongoing and done outside of Fort Belvoir purview; therefore, to mitigate any future issues with accessibility an update to the Program Plan BMP 2.1 will be made to require a minimum of quarterly checks of information and links by DPW Environmental to ensure functionality or early identification of issues.

The measurable goal to maintain a copy of the current MS4 Program Plan on the webpage, review and update the MS4 Program Plan at a minimum of once per reporting period, and post copies within 30 days of any updates was met.

- The MS4 Program Plan underwent a review and update in October 2021 and was completed and finalized on November 5, 2021. This updated Program Plan was posted to the website and made available for public comment on November 10, 2021.

The measurable goal to provide contact information where the public can submit comments on the stormwater program documents and can report illicit discharges, improper disposal, spills to the MS4, complaints regarding land disturbing activities, and other potential stormwater concerns as well as maintain the reporting/Complaint button established in 2020 was partially met.

- The website provides contact information for the MS4 Program and all DPW Environmental contacts which helps in providing a constant open channel for contacting the DPW.
    - Although the site was set up and contact information was provided, it was noted as having incorrect numbers and emails multiple times during the reporting period due to Army pushing updates that would revert the site back to listing older information. It should be noted that although the MS4 number may have been incorrect sporadically, the posted number would still connect to the environmental office where calls could be routed to the correct person.
    - Repairs to the website are ongoing and an update to the Program Plan BMP 2.1 will be made to require quarterly checks of links and information presented to the public on the website.
- The Pollution Reporting button/ form that was made available online on October 27, 2020 remains in place. However, a July 2022 test of the button determined that it was not functioning properly at the time. It is unknown when functionality was interrupted. Repair to the button was completed on August 10, 2022. To prevent future issues an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality.
- As discussed above, the MS4 Stormwater group received fourteen (14) complaints, via direct reporting avenues (phone and/or email) 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

Fort Belvoir runs a public participation program that involves a wide audience including tenant agencies, schools, community partners and other members of the public with the goal of increasing public participation to reduce stormwater pollutant loads, improve water quality and support local restoration and clean-up projects, programs, groups, meetings, or other opportunities for public involvement.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The 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, 2021 - June 30, 2022, with Fort Belvoir providing seven (7) activities where the public was able to directly participate and two (2) activities (reading articles and use of the online reporting form) that were passively available for the public to initiate involvement. The nine (9) activities in four (4) different categories are described in Table 2 above.

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 during this reporting cycle.

Aerostar Environmental and Construction LLC (AEC) was contracted to manage the database and completed updates for new projects as they were completed to include updates to the information tables as required under Part I.E.3.a of the permit. These new projects are summarized in Table 3 below. The updated information tables with data for these new structures is included in Appendix B.

Additionally, AEC updated the GIS mapping layer, submitted to VADEQ on June 24, 2019 as required by Part I.E.3.a.(3). Updates included:

- New structures and changes to the existing system within the information table and GIS system associated with the three (3) construction projects listed in Table 3 below
- New structures and changes to the system within the GIS system, associated with two (2) projects completed during the 2020-2021 reporting period, which were not captured due to Information Technology (IT) issues encountered last cycle
- Existing Stormwater Management Facilities (SMFs) identified at one facility during a field investigation that were not previously captured within the systems.

Table 3: Structures Added/Removed from the MS4 Map and Information Table

Project Name	CGP Number	Stormwater Management Facilities Added	Outfalls/Outlets Added
DLA Ground Fuel Facility	VAR10N474	2 x Bioretention Level 2 Structure IDs: 7871, 7872	1 x Stormwater Outfall Structure ID: 7870
Building 315 Renovation	No CGP	1 x Dry Swale Level 1 Structure ID: 7884	N/A Tied into existing system
91st Cyber Brigade	VAR10L559	2 x Bioretention Level 2 Structure IDs: 7900, 7901	N/A Tied into existing system
DAAF Fire Station* Expansion (Dye Testing)	Unknown	1 x Permeable Pavement Level 1 1 x Bioretention Level 1 3 x Dry Extended Detention Ponds - Level 1 Structure IDs: 7891, 7893, 7894, 7895,7896	N/A Tied into existing system

***NOTE:** Project was completed in 2013 and SMFs were not captured in the database but were identified during a field investigation completed on March 26, 2022. Document search in project library identified as-builts from 2013 which were then used to complete updates to Database, Information Table, and GIS Layer

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

Provide the total number of outfalls screened during the reporting period

Aerostar Environmental and Construction LLC (AEC) was contracted to perform Outfall Reconnaissance Inventory (ORI) screening during the reporting period July 1, 2021 - June 30, 2022. A total of 50 outfalls were chosen for screening after a review and adjustment to the permit year-4 prioritization schedule developed as required by Part I.E.3.c.(2).(a). Adjustment to the original schedule was required due to inaccessibility to certain locations on post in years 2 and 3 because of Covid-19 restrictions. An additional 16 outfalls (32%) were picked to be re-screened based on findings from the previous reporting period (2020-2021 permit cycle). A summary of results from the screenings are discussed below and included in Appendix D.

2021-2022 Outfall Reconnaissance Inventory (ORI) Screening

Based on the outfall screenings completed between July 1, 2021 and June 30, 2022, DPW Personnel identified one (1) outfall with an obvious illicit connection (1715), two (2) outfalls as being Suspect of an illicit discharge (984 and 6951), and three (3) outfalls that had a Potential for illicit discharges (67, 6791, and 6849), and the other 44 outfalls were found to be Unlikely to have an illicit discharge. Some of the outfalls (67, 984, 1715, and 6951) noted as having an obvious, suspect, or potential for illicit discharges were previously identified and are a part of the periodic monitoring program, discussed in the next section. New outfalls (6791 and 6849) identified with potential issues are covered below:

- **6791 (NGA, Fort Belvoir North Area):** Outfall was screened on March 3, 2022 and was found to have a trickle flow at the time of inspection, with a sample being taken from the flow. Hach Water testing was used to test for pH 7.21, Ammonia 0.00 mg/L, Free Chlorine .01 mg/L, Total Chlorine 0.03 mg/L, Nitrate 0.2 mg/L, Nitrite 0.007 mg/L, Fluoride 0.10 mg/L, Phosphate 0.05 mg/L. Tests showed no elevated levels of pollutants when compared to the illicit discharge thresholds. There was poor pool quality with dead algae and suds downstream noted.

  Actions Taken/Recommended: Source tracking was completed on March 3, 2022 and identified a dry extended detention pond (structure 6793) draining to this outfall which was in poor condition with standing water and decaying plant matter within it and is likely the source of the discharge. While there was no exceedance of any illicit discharge thresholds, it is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period. It is also recommended that maintenance efforts are coordinated to repair the poor condition of the dry extended detention pond.

- **6849 (NGA Remote Inspection Facility, Fort Belvoir North Area)** Outfall was screened on March 3, 2022 and was found to have a moderate flow at the time of the inspection, with a sample being taken from the flow. Hach Water Testing was used to test for pH 7.05, Ammonia 0.03 mg/L, Free Chlorine .04 mg/L, Total Chlorine .04 mg/L, Nitrate 0.2 mg/L, Nitrite 0.005 mg/L, Fluoride 0.13 mg/L, and Phosphate .03 mg/L. Tests showed no elevated levels of pollutants when compared to the illicit discharge thresholds. A heavy iron floc buildup was present from all three pipes, as well as the presence of suds just below the discharge point.

  Actions Taken/Recommended: Source tracking was completed on March 3, 2022 and identified a dry extended detention pond (structure 6851) that drains to this outfall with standing water and decaying plant matter within it, which is likely the source of the discharge. While there was no exceedance of any illicit discharge thresholds, it is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period. It is also recommended that maintenance efforts are coordinated to repair the poor condition of the dry extended detention pond.

Continued Outfall Monitoring for 2021-2022 Reporting Period

Ten (10) outfalls (67, 150, 884, 896, 911, 923, 984, 1715, 6951, and 7274) from previous reporting periods had outstanding corrective actions that were followed up on under the periodic screening program during the 2021-2022 reporting year. The history of investigations and actions taken to close the incidents for the ten (10) outfalls with outstanding corrective actions are described below.

An additional six (6) outfalls (917, 920, 1239, 2531, 2834, and 3590) that were found to be inaccessible during previous screenings, were revisited this reporting period to further assess the area and to monitor for maintenance requirements.

In general, when an outfall or any other structure, is found to need repairs work orders are submitted to the Base Operations contractor for action. The ORI screening provides the DPW Environmental Stormwater Facility Maintenance Liaison a summary of the types of repairs needed/recommended for each structure. The Liaison then submits requests for repairs to the O&M Division and works with them on prioritization of repairs. The O&M Division sorts through work orders, assigns them to the Base Operation Contractor for a quote/estimate, and then authorizes repairs as funding becomes available. DPW Environmental tracks all work orders, provides additional guidance as needed, and ensures that repairs completed adequately reduce erosion and provide for a functional MS4 system. A maintenance and repair tracker has been added to the Outfall Reconnaissance Inventory (ORI) Summary Table in Appendix D for tracking these actions.

MS4 Structure ID 67:

Status: Unresolved; investigate outfall to determine if sheen was from natural decomposition or dumping.

- During the 2019-2020 reporting period, outfall 67 was found to have a heavy sheen in pool and channel. No upstream source was found for sheen.
- During the 2020 – 2021 reporting period, a sheen was noted in the pool in front of the outfall although no upstream sources were located. It was recommended that the outfall be revisited the next reporting period and additional sampling for hydrocarbons (requires coordination with petroleum manager as stormwater team does not have this sampling capability) be performed to eliminate or confirm the source of the sheen.
- During the 2021-2022 reporting period the outfall was flowing. A sample was taken from the pool as flow was too low to sample, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. A sheen was noted in the pool and channel, with no upstream source found for sheen. Additional testing and sampling for hydrocarbons was not performed during this reporting period. It is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period, with additional sampling for hydrocarbons (requires coordination with petroleum manager as stormwater team does not have this sampling capability) to be performed to eliminate or confirm the source of the sheen.

MS4 Structure ID 150:

Status: Resolved; origin of trickle flow determined to be clogged area inlet.

- During the 2020-2021 reporting period, a trickle flow was noted at the time of inspection but not enough to collect a sample. The origin of flow was unknown and noted as potentially from ground water seepage, with no other source noted during inspection. Therefore, further monitoring was recommended to determine the source and frequency of the discharge.
- During the 2021-2022 reporting period, a trickle flow was noted at the time of inspection but was not enough to collect a sample. Source tracking was performed and determined the source of the flow to be a clogged inlet and channel with pooling water upstream of the outfall point. No additional screening is recommended.

MS4 Structure ID 884:

Status: Unresolved; Investigate outfall further to determine the source of flow and if the outfall is groundwater influenced.

- During the 2020-2021 outfall inspection, a moderate flow was noted at the time of inspection along with a pH of 6. The origin of flow is unknown and may be from ground water seepage, no other source noted during inspection. Therefore, further monitoring was recommended to determine the source and frequency of the discharge.
- During the 2021-2022 reporting period, the outfall was found to have a trickle flow too low to measure, and a sample was taken from the pool, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. A wet weather inspection was also performed to determine the difference between a rain flow and base flow at this location. Flows were found to be about the same level indicating that there may not be groundwater influence but instead a potential clog in the system. Per Part I.E.3.c.(4), attempts to observe the discharge flowing should be made and documented to try to identify the source of the intermittent discharge. Therefore, it is recommended that this outfall is placed on the periodic screening list for continued monitoring for a minimum of six (6) months (through December 2022).

MS4 Structure ID 896:

Status: Unresolved; Investigate outfall further to determine the source of ammonia and to determine if the outfall is groundwater influenced.

- During the 2020-2021 outfall inspection it was found to have no flow at the time of inspection, but a sample was collected from the pool. Sample results detected ammonia at 3 mg/L. Therefore, further monitoring was recommended to determine the source of ammonia and if the outfall is groundwater influenced.
- During the 2021-2022 reporting period, the outfall was not flowing with no pool present, indicating that the pool present during the previous reporting period is likely from intermittent flow. Per Part I.E.3.c.(4), attempts to observe the discharge flowing should be made and documented to try to identify the source of the intermittent discharge. Therefore, it is recommended that this outfall is placed on the periodic screening list for continued monitoring for a minimum of six (6) months (through December 2022).

MS4 Structure ID 911:

Status: Resolved; sample results showed no elevated levels of pollutants and sheen was not present during the re-investigation.

- During the 2020-2021 reporting period, a trickle flow was present with a sample collected from the flow showing elevated levels of Nitrite at 3 mg/L. Additionally, an oily sheen was noted in the pool suspected to come from parking areas within the drainage area, but no point source was found. Therefore, further monitoring was recommended.
- During the 2021-2022 reporting period, a trickle flow was present, and a sample was collected from the flow, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. Additionally, no oily sheen was found, and no upstream sources were noted. The sheen from 2020-2021 was likely due to a single occurrence of a spill or leak in the nearby parking area. No additional screening is recommended.

MS4 Structure ID 923:

Status: Resolved; source of sheen determined to be biological.

- During the 2020-2021 outfall inspection the report states that an oil sheen was noted in the stagnant pool. No point source of oil sheen was found. It is suspected that the oil may have come from nearby parking areas. Therefore, further monitoring was recommended to determine if sheen was from natural decomposition, a leak or dumping.
- During the 2021-2022 reporting period, the outfall was not flowing but a sheen was noted in the pool. Heavy leaf litter was present in the area, and when disturbed, the sheen did not re-coalesce, indicating that it is biological. No additional screening is recommended.

MS4 Structure ID 984:

Status: Unresolved; Investigate further to determine the source of the flow into inlet 993.

- During the 2020-2021 outfall inspection it was found to have moderate flow at the time of inspection. A sample was not collected as the outfall was inaccessible at the time. Source tracking showed no overland sources of flow were found during the investigation. The report noted that at inlet 988 there is an underground pipe discharging that was not shown in the SW map. It was recommended that this outfall be rescreened to determine the source of flows into inlet 988, if they are consistent, and if an illicit connection exists.
- During the 2021-2022 reporting period, the outfall was found to be flowing, and a sample was taken from the flow, with phosphate levels of 0.46 mg/L, ammonia levels at 0.65 mg/L, and fluoride levels at 0.48 mg/L. While the phosphate and ammonia levels are not over the illicit discharge threshold, the fluoride levels are above the 0.25 mg/L threshold indicating potable water. A trunk investigation performed this reporting period confirmed an unknown pipe flowing into structure 993 (incorrectly noted on previous report as 988, no unknown pipe was seen in structure 988) coming from Building 247 which is considered either a roof drain or an illicit connection within the building. It is recommended that this outfall is placed on the periodic screening list for continued monitoring, to include plan review and/or facility investigation to determine the source of the unknown pipe.

MS4 Structure ID 1715:

Status: Unresolved; Re-screen outfall once the corrective action (re-routing) is completed.

- During the 2015 – 2016 ORI initial screening on November 24, 2015 a trickle flow was present. DPW ED and contractor staff conducted 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 designs were submitted by American Water during this reporting period. Currently waiting for approval of submission to disconnect the illicit connection from the MS4.
- During the 2019-2020 reporting period, American Water completed field screening and design for rerouting to sanitary sewer, plans for building remodel were at 65%, coordination for Lab Closure and Rerouting are ongoing. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.
- During the 2020 – 2021 reporting period the outfall could not be accessed as it was fully submerged. The outfall was observed from an upstream location and noted as still receiving flows. The rerouting of the mechanical room at building 357 has not yet been completed. On May 25, 2021 American Water (AW) stated that stormwater from the roof drains are not yet separated from the mechanical room floor drain piping system. This needs to occur prior to AW completing the project. AW is also still awaiting revised contract from DLA. On June 14, 2021, a site visit determined that rerouting has not yet been completed and that Aleut re-routing of roof drains had also stagnated. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.
- During the 2021-2022 reporting period, the outfall was found to be flowing with a sample being taken from the flow showing elevated levels of Fluoride at 0.61 mg/L, above the 0.25 mg/L threshold for potable water. From previous years, there is a known illicit connection within Building 357, and a project work order (NV-22031-2J) was re-submitted to DPW on April 18, 2022 to re-route the known illicit connection boiler and cooling tower drains to a sanitary sewer. The recommended action is that this outfall is placed on the ORI list for the 2022-2023 reporting period to confirm success of this project work order. Monitoring of this outfall is planned until the re-routing is completed.

MS4 Structure ID 6951:

Status: Unresolved; Investigate outfall to confirm suds are from natural decomposition with a detergent test, and to confirm presence of petroleum/oils with sampling for hydrocarbons.

- During the 2019-2020 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.
- This outfall was not investigated during the 2020 – 2021 reporting period due to access restrictions due to Covid-19 and reinvestigation was noted to be continued during the 2021 – 2022 reporting period.
- During the 2021-2022 reporting period, outfall was found to have a moderate flow and a sample was taken from the flow, with test results showing slightly elevated levels of Nitrate at 1.0 mg/L and Nitrite at 0.37 mg/L, but no exceedances when compared to the illicit discharge thresholds. Outfall had a sheen, suds, sulfide as well as petroleum/gas odor, and orange color present and is suspect for an illicit discharge. The sheen that was present re-coalesced when disturbed and is believed to be petroleum, oil, or lubricant. The suds that were present did carry odors of sulfide, with a petroleum/gas smell also present. The suds are thought to be associated with the natural decay of organic matter from the ponding area upstream, while the petroleum/gas odor is believed to be an illicit discharge. Source tracking did not find a point source but confirmed an upstream ponding/wetland unconverted stormwater area. During the previous reporting period, it was stated that a detergent test would be performed; this did not occur this reporting period. It is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period, to include a detergent test for the suds as well as additional sampling for hydrocarbons (to be coordinated with the Petroleum Program Manager) to eliminate or confirm sources of the sheen and petroleum/oil odors.

MS4 Structure ID 7274:

Status: Unresolved; continue to monitor through August 15th, 2022 to confirm flow is groundwater influenced**.**

- During the 2020-2021 outfall inspection it was found to have moderate flow at the time of inspection. Iron floc, suds, bacteria film, and downstream erosion were observed. Upstream construction site and storm water management facilities were surveyed but no evident source of flow or suds was found during investigation. It is recommended that this outfall be screened to confirm that suds are from natural decomposition, by using a detergent test. Additionally, it should be determined if the flow observed is constant and what the source is.
- During the 2021-2022 reporting period, outfall was found to be flowing and a sample was taken from the flow, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. Outfall was seen to have a bacteria film present which did not re-coalesce when disturbed, indicating that it was biological, as well as iron floc with no suds present. An upstream analysis was conducted and found a stormwater pond with no standing water seen. A wet weather inspection was also conducted this reporting period and flow was slightly greater than the original dry screening, indicating the flow is likely from and consistent with groundwater. Per Part I.E.3.c.(4), monitoring of the outfall will continue for a full six (6) months (through August 2022) to confirm that flow is groundwater influenced. It is recommended that this outfall is placed on the periodic screening list for continued monitoring.

New Investigations for 2021 – 2022 Reporting Period

There are two (2) new outfalls (6791, 6849) added to the screening list requiring further investigations for the 2022 – 2023 reporting period based on 2021 – 2022 ORI results. The history of the outfall and anticipated closure requirements are discussed below**.** It should be noted that both outfalls showed similar characteristics and are in the same area which may be indicative of natural occurrence in the area.

MS4 Structure ID 6791:

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

- During the 2021-2022 reporting period, outfall had a trickle flow present, and a sample was taken from the flow, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. Poor pool quality with dead algae as well as suds downstream were noted. Source tracking was performed and showed a dry extended detention pond (structure 6793) in poor condition with standing water and decaying plant matter upstream, likely being the source of the suds. It is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period, to include a detergent test to confirm suds are from natural decomposition.

MS4 Structure ID 6849:

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

- During the 2021-2022 reporting period, outfall had a moderate flow present, and a sample was taken from the flow, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. Iron floc was noted as well as suds downstream just below the outfall lip. Source tracking was performed and showed a dry extended detention pond (structure 6851) with decaying plant matter and standing water upstream, likely being the source of the suds. It is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period, to include a detergent test to confirm suds are from natural decomposition.

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.

Aerostar Environmental and Construction LLC (AEC) was contracted to manage and respond to Illicit discharge issues across Fort Belvoir during the 2021-2022 reporting period. Illicit discharges were discovered utilizing windshield inspections, direct reporting, and DPW inspections.

A total of 61 incidents were handled during the 2021-2022 reporting period, 42 were new reports of potential illicit discharges that were investigated, and 19 incidents were originally reported during previous reporting periods and had follow-up actions during this reporting period. A summary of each investigation including the required details listed in Part I.E.3.e.(3).(a) - (f) is provided in Appendix E. Full incident records for illicit discharges are available upon request.

The status of the 61 found incidents is as follows:

- 45 incidents were closed
  - 38 were new incidents
  - Seven (7) were incidents reported during previous reporting periods
- 16 incidents remained open at the end of the 2021-2022 reporting cycle; these will require further actions in the 2022-2023 permit year.
  - Four (4) were new incidents
  - 12 were incidents reported during previous reporting periods

31 (74%) of the new 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 system. Corrective actions were still taken for 26 of these incidents in the form of spill clean-up, training, investigations, or guidance.

11 (26%) of the new investigated discharges were found to be valid reports (potential or actual illicit discharges). Corrective Actions were taken for nine (9) of these incidents and they were closed during the reporting cycle. Two (2) of these require monitoring and/or corrective actions that are ongoing and as such remain open incidents under the IDDE Program.

iv. Review of MCM#3 Program Effectiveness

For the reporting period, July 1, 2021 - June 30, 2022, Fort Belvoir completed the following actions to maintain compliance with permit conditions of 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 but did not receive any major updates, and most updates require a resolution before implementation. The last major revision resulted in the current plan dated, December 2020. During this reporting cycle:
  - The prioritization schedule for year 4 was updated to include outfalls that were unable to be screened during year 2 and 3 due to COVID-19 restrictions.
  - The prioritization schedule was updated to include new outfalls that have been brought online during the 2020-2021 and 2021-2022 reporting periods.
  - Updated Field forms to better capture flow data and types of structures

- ORI was conducted on 50 outfalls prioritized for year-4 screening as required under Part I.E.3.c.(2).(c). Some outfalls that were originally listed under years-2 and 3 were completed as they were in secure areas and inaccessible for the previous two (2) reporting periods due to COVID-19 restrictions.
- 42 new suspected illicit discharges were investigated, 38 were tracked to completion as required under Part I.E.3.c.(2) – (6), and four (4) remained open and awaiting corrective actions. Additionally, 19 incidents from previous reporting periods were followed-up on and seven (7) were closed during the reporting period.
- Windshield inspections were conducted on all eight (8) routes quarterly, for a total of 32 total windshield inspections completed as stated in the Fort Belvoir Illicit Discharge Detection and Elimination Plan.
- A link "Report Stormwater Pollution" was added to the website (Environmental Division : FORT BELVOIR (army.mil) on October 27, 2020 to allow the population on Fort Belvoir to report illicit discharges online anonymously.
    - Although the button was available, no direct reports were received. Therefore, while drafting this annual report AEC performed a test of the button and determined that it was not functioning properly. It is unknown when functionality was interrupted. Repair to the button was completed on August 10, 2022, and to mitigate future issues an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality.
- Illicit discharge education for the public is included in the Education and Outreach Plan developed for Part I.E.1.b and Illicit discharge identification and reporting is covered in all levels of worker training and in the written operating procedures developed for Part.I.E.6.
- Seven (7) construction projects were completed during the reporting cycle, three (3) of which resulted in changes to the stormwater system. As-builts were used to update information tables for MS4 outfalls and stormwater management facilities (SMFs) as required by Part I.E.3.a.(1) and (2). The updated information tables are presented in Appendix B.
- 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). GIS layers and stormwater database were updated per Part I.E.3.a.(4), ahead of the October 1, 2022 deadline, to account for:
    - New structures and changes to the existing system within the information table and GIS system associated with the three (3) construction projects listed in Table 3 above.
    - New structures and changes to the system within the GIS system associated with two (2) projects completed during the 2020-2021 reporting period, which were not captured due to Information Technology (IT) issues encountered last cycle.
    - Existing structures found at one facility identified during a field investigation that were not previously captured within the systems.

BMPs (BMP 3.1, 3.2, and 3.3) for the Illicit Discharge Detection and Elimination (IDDE) MCM continue to be effective ways to meet permit requirements. The BMPs in the Program Plan call for maintaining an Accurate MS4 Map and Information Table, prohibiting unauthorized non-Stormwater discharges into the MS4 through issuance of a Garrison Policy Memorandum, and implementation of the 2020 IDDE Plan which documents written procedures designed to detect, identify, and address unauthorized non-stormwater discharges. How Fort Belvoir achieved compliance with the measurable goals for MCM #3 based on the Program Plan is discussed below.

BMP 3.1 Maintain an Accurate MS4 Map and Information Table:

Fort Belvoir developed a GIS-compatible shapefile and information table to meet all requirements listed in Part I.E.3.a.(1) and (2) for all MS4 outfalls and stormwater management facilities (SMFs) during the 2018-2019 reporting cycle and now maintains the data, as necessary. 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).

During the reporting period from July 1, 2021 - June 30, 2022 the following goal is set forth in the Program Plan,

The measurable goal to update the storm sewer system map and outfall information table, no later than October 1 of each year, to include any new outfalls constructed, or TMDLs approved, or both during the immediate reporting period was met.

- Aerostar Environmental and Construction LLC (AEC) was contracted to manage the MS4 structure database, the GIS-compatible shapefile, and information tables for MS4 Outfalls and Stormwater management facilities. Under contract, AEC completed updates to these systems as projects were completed and within 30 days of final project closure inspection.
- The structure database and GIS layers were updated to account for changes to the system including new, abandoned, and/or retrofitted structures associated with nine (9) projects. The information table was updated to account for new MS4 outfalls and SMFs installed associated with three (3) newly completed projects and one (1) identified data gap found during field investigations as shown on Table 3.
- The updated information tables with data for these new structures is included in Appendix B.

With IT issues encountered during the last reporting cycle (2020-2021) and the change in program personnel, Fort Belvoir recognizes that some updates may have been missed. The entire system will be reviewed during the 2022-2023 reporting period to identify any data gaps and capture all updates in preparation for the permit Reapplication due to VADEQ in 2023.

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 was an existing policy that prohibited unauthorized discharges into the MS4 as per Part I.E.3.b of the permit. A new Garrison Commander, Joshua SeGraves, took command of Fort Belvoir in August 2020. At the time, the policy memorandum #71 was in place and was submitted for command approval. Due to an effort by the new command to combine multiple policy goals into fewer memoranda the policy has not yet been put back into place. During the reporting period from July 1, 2021 - June 30, 2022 the following goal is set forth in the Program Plan,

The measurable goal to review and revise Fort Belvoir Policy Memorandum #71 (or new ID number as assigned once efforts are completed), as needed, to meet new Command goals and obtain Garrison Commander approval and signature to get the required policy in place, was not met.

- During this reporting period, DPW worked to draft a new Consolidated Policy Memorandum #28: Environmental Management, to meet command goals. All previous Policy Memorandums, including #71, were converted into Fact Sheets referenced in the Consolidated Policy. The Prohibition of Illicit/Unauthorized Discharges into the MS4 and Waterways is included in the new consolidated policy as Fact Sheet 013.
- A new Garrison Commander, Joseph V. Messina, took command of Fort Belvoir on August 9, 2022. DPW Environmental will continue to work with the current Garrison Commander on a method to get the ordinances in place. Once successful the policy will be posted on the Fort Belvoir website.

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

The 2020 IDDE Plan documents IDDE written procedures designed to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping, to the MS4 and to effectively eliminate the unauthorized discharge.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to review and revise the IDDE Plan, as needed, including adding new outfalls to the screening prioritization list was met.

- The IDDE Plan was reviewed but did not receive any major updates. The last major revision resulted in the current plan dated December 2020. During the review, the following was noted as requiring updates but were not done as there has not been a resolution:
    - Policy Memorandum #71 is still the method for prohibiting discharges noted in the IDDE Plan. Additionally, multiple other policies used in the Legal Authority section (#28 and #73) have also gotten caught up in the goal to combine similar policies described above. Once a policy or policies are back in place the IDDE Plan will be updated to reflect the change.
    - The IDDE Plan currently prescribes articles to be published in the *Fort Belvoir Eagle* which has stopped hard copy publication. Therefore, the Public Education and Outreach Program has been adjusting to find other avenues for publication. Once this has been developed the IDDE Plan will be updated to reflect the changes.
    - The Plan currently references the future implementation of a fillable pollution complaint form on the website. As noted previously, this action was implemented with the addition of the Pollution Reporting Button to the website. However, a July 2022 test of the button determined that it was not functioning properly. It is unknown when functionality was interrupted. Repair to the button was completed on August 10, 2022. To prevent future issues an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality. The IDDE Plan will be updated to reflect the use and process for maintaining this feature.
- During this reporting cycle:
    - The prioritization schedule for year 4 was updated to include outfalls that were unable to be screened during year 2 and 3 due to COVID-19 restrictions as discussed below.
    - The prioritization schedule was updated to include new outfalls that have been brought online during the 2020-2021 and 2021-2022 reporting periods
    - Updated Field forms to better capture flow data and types of structures

The measurable goal to implement the five-year IDDE plan is inclusive of accomplishing multiple things across the MS4 Program. These actions are broken down to match the major plan sections of Prevention, Detection, and Elimination. The goal to fully implement the plan was partially met.

- **Prevention –**
    - Promoting Good Practices Through Training – was met
        - Illicit Discharge identification and reporting is included in all levels of worker training and in the written operating procedures developed for Part.I.E.6.
        - Key topics and audiences trained included:

- Identifying potential spills, eliminating, or reducing spill potential, and how to respond when spills occur to Spill Prevention and Response personnel training held on March 10, 2022.
- Sediment and Erosion Prevention during Pre-construction Training held on August 9, 2021, November 16, 2021, January 4, 2022, May 26, 2022, and June 21, 2022.
- Proper Material and Waste Management including storage, handling, and disposal to personnel that deal with or have the potential to deal with hazardous materials or waste held on April 14, 2022, and April 20, 2022.
- Preventative Maintenance to all personnel responsible for maintenance of vehicles, aircraft, equipment, tanks, etc. held throughout the reporting period.

- Publicize Educational Events, Materials, and Guides – was partially met
  - Facebook Posts were made regularly but did not meet the goal set in the IDDE plan of at least once per month covering high-priority water quality issues.
  - Although numerous articles were published, as described in Table 1, not all articles provided a method for contacting the DPW Stormwater Program and how to report illicit discharges.
- Facilitate Reporting of Illicit Discharge – was partially met
  - The Fort Belvoir Environmental Division Webpage continued to provide the public contact information where the illicit discharges could be reported.
    - Although the site was set up and contact information was provided, it was noted as having incorrect phone numbers multiple times during the reporting period due to Army pushing updates that would revert the site back to listing older information. It should be noted that although the MS4 number may have been incorrect sporadically, the posted number would still connect to the Environmental office where calls could be routed to the correct person.
    - Unfortunately, changes in personnel led to a loss of access to the reporting email provided on the website resulting in it not being monitored as intended in the Program Plan. DPW Environmental is in the process of re-obtaining access.
  - A link "Report Stormwater Pollution" was added to the website in 2020 to allow the population on Fort Belvoir to report illicit discharges online.
    - Although the button was available, no direct reports were received. Therefore, while drafting this annual report AEC performed a test of the button and determined that it was not functioning properly. It is unknown when functionality was interrupted. Repair to the button was completed on August 10, 2022. To mitigate future issues, an update to this BMP in the Program Plan will be made to require quarterly tests of button functionality.

- **Detection –**
  - Maintain Avenues for Direct Notification – was met
    - Direct Notification is how the public and contractors can contact the DPW and report illicit discharges. Reports of this kind can be made through multiple avenues and to any of the personnel within the Environmental office. This allows DPW to appropriate the most qualified team in response to any illicit discharge.

- As noted above, personnel changes and technical issues presented some challenges during this reporting period, but the number of reports remained at a high level based on a review of past years' reporting.

▪ 14 of the 42 reported potential Illicit Discharge Incidents investigated during this reporting period were a result of direct notification from other agencies or the public. These were discussed in detail in Section 2.b.i of this annual report.

o Performing Windshield Inspections – was met

▪ Windshield Inspections are performed quarterly along eight (8) defined routes, developed in 2019. These inspections resulted in 25 deficiencies being noted in 13 of the 32 inspections completed:

- Six (6) erosion and sediment control (ESC) deficiencies
- 17 good housekeeping deficiencies
- Two (2) incidents of spills requiring investigation
- Zero (0) structures identified for maintenance
- Routes 2, 6, and 7 were identified as the routes with the most issues found.

▪ 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.

o Dry Weather Screening of 50 outfalls – was met

▪ Implementation of the plan involved completion of an outfall reconnaissance inventory (ORI) of 50 identified outfalls to detect illicit discharges as discussed in Section 2.c.ii of this annual report. The U.S. Army, Fort Belvoir, Virginia 2021 - 2022 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 D.

- one (1) outfall showed an obvious illicit connection (1715),
- two (2) outfalls were considered suspect of an illicit discharge (984 and 6951), and
- three (3) outfalls were considered a Potential for illicit discharge (67, 6791, and 6849).

- **Elimination –**

o Illicit Discharge Tracking – was met

▪ Illicit discharges are tracked using the IDDE tracker contained within the MS4 Master Tracking Spreadsheet, to organize events via an assigned event number. As discussed in Section 2.c.iii a total of 42 new potential Illicit Discharge Incidents were investigated and 61 total Incidents were tracked using this spreadsheet during this reporting period.

▪ As required by Part I.E.3.c.(6).(a)-(e), tracking of each incident includes an incident ID, the date discovered, discovery methodology, MS4 structure # affected (if applicable), a description of the event, corrective actions required and taken, validity of the report, notes, status, and date closed. A copy of the tracking spreadsheet for Illicit Discharges is included in Appendix E.

o Determine sources of Illicit discharge and/or connections – was met

▪ Source tracking was completed during the ORI as discussed in Section 2.c.ii of this annual report. Out of the 50 investigated outfalls for this reporting period:

- Source tracking was done for 8 outfalls which found that:
    - two (2) dry weather flows were found to be associated with a clogged pipe/inlet leading to slow trickle flows.
    - two (2) dry weather flows are thought to be related to ground water influence and will be monitored for 6 months to rule out dumping.
    - three (3) were found to have ponds/wetland areas upstream, thought to be the source of suds and biological sheens due to leaf decay. It should be noted that all these outfalls showed similar characteristics and are in the same area which may be indicative of natural occurrence in the area.
    - one (1) identified an unknown connection to the MS4 system either from a roof or floor drain at a nearby building. Investigations are ongoing to rule out an illicit connection.

- Investigations were done as discussed in Section 2.c.iii on a total of 42 new potential Illicit Discharge Incidents to determine a source for each.
    - 11 of the incidents were found to be an illicit discharge.
- In addition to efforts by DPW, Fort Belvoir's privatized wastewater/water partner, American Water (AW), also has ongoing efforts to discover any connections of the sanitary sewer to the storm sewer system.

- Investigate, Assign, and Follow-up on Corrective Actions for each incident – was met
    - Methodology for follow up investigations was completed through corrective actions issued for Illicit Discharge Investigations. Out of the 42 Illicit Discharge Investigations completed this reporting period, 35 of them required corrective actions that were issued and verified as completed prior to closeout.
    - All deficiencies noted during windshield inspections were recorded in the IDDE tracker and corrective action forms created and issued to the appropriate responsible party. 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 E.

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 as a 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) is 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.

Fort Belvoir utilizes Virginia State Certified ESC/SWM Inspectors to complete inspections of ongoing projects greater than 10,000 sq.ft.:

- During or immediately following initial installation of erosion and sediment controls,
- At least once per every two-week period,
- Within 48 hours following any runoff producing storm event, and
- At the completion of the project prior to the release of any performance bond.

As Article 2.5 of the Chesapeake Bay Preservation Act under § 62.1-44.15:68 defines who is applicable using geographical locations and does not explicitly state "federal facilities," Army Environmental Command (AEC) has interpreted this to mean that inspections of project sites greater than 2,500 sq.ft. but less than 10,000 sq.ft. is not applicable to Fort Belvoir as a federal facility and has directed Fort Belvoir to omit these sites from the typical inspection schedule. Inspections of these smaller sites are done via the windshield inspections discussed under MCM#3.

Fort Belvoir guides all designers, project proponents, contract specialists, and construction contractors during the Environmental Division project review process and provides limited plan review prior to plans being sent to VADEQ for review and approval. DPW then issues a Land Disturbance Letter (signed by the Director of Public Works) to the construction contractor to authorize start of construction upon receipt of copies of the following documents, as applicable:

- Approved ESC and SWM Plan,
- CGP and approval letters,
- Project-specific stormwater pollution prevention plan (if required),
- Responsible Land Disturber certification, and
- DPW Excavation Permit.

On February 15, 2022, VADEQ correspondence was received stating that any plans submittals from Fort Belvoir, as an MS4 Entity, would be deemed approved by VADEQ without a formal review under a new Administrative Approval process. VADEQ communicated that this new process would require that the owner/operator and the design engineer complete and sign a form certifying that the project is compliant. At this point, the plans "may be administratively approved by DEQ without formal review and approval".

Fort Belvoir requested further guidance from VADEQ and was provided some brief information, including:

"The Administrative Review is an implementation of the laws/regulations which state a plan is approved if no action is taken by DEQ and/or DEQ has not communicated approval or denial within mandated timeframes. The volume of submissions for plan review at times exceeds DEQ's resources for each plan to be reviewed within the regulatory timeframes; DEQ uses the criteria in the abbreviated review checklist to consider the plan eligible for the administrative review. Staff

will review the checklist and if it is complete, and DEQ chooses not to review the plan, it is approved by regulation 45 and/or 60 days after the date of submission."

VADEQ-NRO stated that they would not be providing stamped and approved plans with Administrative Approval, nor will they be providing the formal approval letters as they had in the past. Only an email stating the plans are approved in accordance with § 62.1-44.15:55 of the Virginia Erosion and Sediment Control Law would accompany said plans. VADEQ used this new procedure on two (2) Plans that went for VADEQ review from Fort Belvoir. One of which had been submitted to VADEQ for review even prior to Fort Belvoir being notified of the new process.

While Fort Belvoir is an MS4 Entity, it does not currently act as a VESCP or VSMP authority and does not have the infrastructure in place (permitting, plan review, etc.) required under 9VAC25-840 to support this Administrative Approval process as described in February 2022 nor take on the liability, as owner/operator, of certifying that plans are compliant with the requirements. Fort Belvoir finds that overall, this process seemed informal and was not appropriately promulgated and therefore did not implement any major changes to the program in response to this notification. Fort Belvoir did require that the Administrative Approval email from VADEQ be included on the cover sheet of the plans that underwent this process, so it would be kept in the program records.

Fort Belvoir is awaiting the formal promulgated adoption of this Administrative Approval Process by VADEQ and will review future guidance when it comes out to determine if current processes need to be adjusted.

ii. Part I.E.4.d.(1)

Confirmation Statement that all land disturbing projects were conducted in accordance with the approved standards and specifications.

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.

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

Provide the total number of inspections conducted

A total of 414 inspections were conducted during the reporting period July 1, 2021 - June 30, 2022 for regulated land disturbing activities. 295 inspections occurred at sites disturbing one acre and over, 119 inspections occurred at projects disturbing 10,000 square feet to less than an acre. No inspections were conducted for non-regulated linear utility projects working under independent standards and specs.

- *Total number of regulated land-disturbing activities:* There were 16 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, 2021 - June 30, 2022.
    - Eleven (11) projects involved land disturbance of one acre and greater, eight (8) of which required VADEQ issuance of a CGP, and three (3) of which had variances approved (DEQ SWM # 2020-0144, 2020-0241, and 2020-0292).
    - Five (5) projects involved land disturbance that was between 10,000 sf and one acre, and no CGP's were required for these projects.
- *Total number of acres disturbed:* There were 60.58 acres of total regulated (defined as 10,000 square feet and greater) land disturbance during the reporting period July 1, 2021 - June 30, 2022.

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

Provide the total number and type of enforcement actions implemented

Enforcement actions were initiated on six (6) total projects during the reporting period.

As a first action, after three repeat violations, an Erosion & Sediment Control (ESC) Warning Letter is issued to the Construction Manager and Contract Officer Representative (COR) for a project. A total of eleven (11) Warning Letters were issued during this reporting period.

If the ESC Warning Letter did not result in the issues being addressed within one (1) week of issuance, as a second action, a Notice of Non-Compliance Letter was sent to the Construction Manager and COR. No Notice of Non-Compliance Letters were issued during this reporting period.

If the Notice of Non-Compliance Letter did not result in the issues being addressed within one (1) week of issuance, as the third action, an Email Notice of VADEQ Compliance Assistance is issued to the Construction Manager and COR. No Email Notices of VADEQ Compliance Assistance were issued during this reporting period.

In addition to Fort Belvoir's enforcement protocols, VADEQ has project oversight on all construction projects within Fort Belvoir Property. During this reporting period, VADEQ did not perform any site inspections at Fort Belvoir.

v. Review of MCM#4 Program Effectiveness

For the reporting period, July 1, 2021 - June 30, 2022, Fort Belvoir completed the following actions to maintain compliance with permit conditions of 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 ESC Plan approval from VADEQ prior to construction commencement.
- Construction projects disturbing an acre or greater of land were required to obtain ESC AND stormwater management (SWM) Plan approval from VADEQ and obtain a CGP from VADEQ prior to construction commencement.
- All Fort Belvoir Erosion and Sediment Control Inspectors maintained certificates of competence in accordance with 9VAC25-850-40.
- Fort Belvoir uses five (5) Technical Bulletins to communicate requirements of the MS4 Construction Site Stormwater Runoff Control Program. The Bulletins are reviewed and revised as needed to account for changes in the program.
- 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 either in-person or using virtual training.

All BMPs (BMP 4.1, 4.2, and 4.3) for the construction site stormwater control MCM continue to be effective ways to meet permit requirements. 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 these goals is discussed below.

BMP 4.1 Communicate the Requirements of the Stormwater Program:

DPW ED uses several Bulletins to communicate requirements of the MS4 Construction Site Stormwater Runoff Control Program to government staff, project proponents, designers, and construction contractors. Currently Fort Belvoir utilizes the following Bulletins

- ***MS4 Technical Bulletin #1:*** *Stormwater Management & (ESC) Design, Review, and Plan Approval Procedures for Land Disturbance (Revised January 31, 2022 and March 10, 2022)*
- ***ESC Technical Bulletin #1:*** *Dewatering Operations (Revised January 31, 2022)*
- ***ESC Technical Bulletin #2:*** *Construction Site Stormwater Pollution Prevention Plan Requirements (Revised January 31, 2022)*
- ***ESC Technical Bulletin #3:*** *ESC Requirements for Utility Installation (Revised January 31, 2022)*
- ***ESC Technical Bulletin #4:*** *Stormwater Pollution Prevention Requirements for Small Projects & Renovation Projects (Revised January 31, 2022)*

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal: Distribute MS4 permit requirements to designers during initial planning phases of construction projects and/or as needed was met.

- DPW ED distributed MS4 Bulletin #1 to designers for all projects with greater than 2,500 square feet of land disturbance during the project design phase and dig permit reviews. Bulletin #1 references the Fort Belvoir Home Page website address, 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. This bulletin is used to communicate the requirements and process for project approval
- ESC Bulletins #1-4 cover topics such as: Dewatering Operations, SWPPP Requirements, ESC for Utility installation, and P2 for small projects or renovations. These are distributed, as needed and applicable, based on the type or size of a project and what operations are involved.
- MS4 Program staff, track projects greater than 2,500 square feet during the internal project and dig permit reviews to ensure that they obtain the proper level of permitting from VADEQ prior to construction commencement.

The measurable goal: Review, revise, and post any revised program bulletins on the website within 30 days of updates was not met.

- Bulletins were reviewed and revised, as needed, to account for any changes effecting the construction site runoff control program.
- Fort Belvoir maintains each bulletin online on the MS4 Program Webpage under Technical Bulletins on the Environmental Page.
    - Revisions to the Bulletins were completed on January 31, 2022, and March 10, 2022 to reflect changes in program personnel. Revised bulletins were used when presenting comments to plans being reviewed internally at DPW but were not updated on the website.
    - The most recent bulletin updates posted on the website are dated April 30, 2021 while revisions occurred in 2022. Fort Belvoir has noted this issue and will ensure all up-to-date Technical Bulletins are posted by October 1, 2022.

The measurable goal of conducting pre-construction meetings for projects over 10,000 square feet was met.

- Pre-construction Training was provided to five (5) project proponents and trained 46 individuals who initiated construction under a CGP during the reporting cycle from July 1, 2021 – June 30, 2022. 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 ESC Technical Bulletins #1-#4 as applicable.

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

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. Fort Belvoir utilizes Virginia State Certified ESC/SWM Inspectors to complete inspections of ongoing projects greater than 10,000 sq.ft.

During the reporting period from July 1, 2021 - June 30, 2022 the following goal is set forth in the Program Plan,

The measurable goal of conducting site inspections for 100% of active construction sites that involve land disturbance of 10,000 square feet or greater using certified inspectors was met.

- Three (3) Contracted inspectors, certification #ESCA0346/SWIN1123, DIN0991 and ESCA0412, from Aerostar Environmental and Construction LLC were used to perform all construction site inspections.
- Erosion and Sediment Control inspections were conducted once every two weeks and within 48 hours of a storm event that produced greater than 0.50” of precipitation on all construction projects involving land disturbance of 10,000 square feet and greater.
- A total of 414 Erosion and Sediment Control inspections were conducted on Fort Belvoir.
- Ten (10) 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. Three (3) projects were completed during the reporting year as shown on Table 3.

BMP 4.3 Progressive Compliance Enforcement Strategy:

Fort Belvoir has a written compliance and enforcement strategy to ensure that contractors are conducting land disturbance responsibly and in accordance with VADEQ ESC/SWM regulations. This strategy is published in the MS4 Bulletin #1 and covered in pre-construction trainings. Failure to obtain proper permitting and/or non-compliance with ESC minimum standards (9VAC25-840-40) may result in differing levels of enforcement based on the issues noted.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal of implementing the compliance and enforcement strategy when construction contractors fail to obtain proper permitting or have repeat non-compliance findings on bi-weekly ESC inspections on an active construction site was met.

- Enforcement actions were initiated on six (6) projects during the reporting period. A total of eleven (11) warning letters were issued to sites after 3 repeat violations occurred. After Warning Letters were issued, corrective actions were taken and none of the sites incurred a 4th violation. Therefore, no Notices of Non-Compliance 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 on record 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 and submits summaries to DPW-Environmental. During the 2021-2022 reporting period, FBRC reported:

- Completed inspections of 45 SMFs.
- Performed maintenance on 33 SMFs.
    - 21 bioretention units
        - Maintenance included: mowing, vegetation removal, debris/sediment removal, minor erosion repair and stabilization, seeding and mulching of bare areas.
    - 12 manufactured treatment devices
        - Maintenance included: restoring filter media in tree box filter and sediment/trash removal from hydrodynamic separators, mud/debris removal and filter checks for stormwater filter vaults
        - One (1) Contech Stormwater filter was found to have broken fittings and required new piping to reconnect filter cartridges
- An additional 7 SMFs were identified as requiring maintenance scheduled to be completed in July 2022. This included work planned for:
    - Six (6) tree box filters in Woodlawn Village and one (1) extended detention pond in Lewis Village.
- FBRC identified three (3) additional SMFs during review of the construction plans and field reconnaissance, that were not previously captured in the MS4 database. DPW-Environmental will coordinate with FBRC to assign a permanent SMF ID#, if appropriate, and get the newly discovered facilities into the database.
    - ***BMP 14***, a Contech 360 StormFilter used as pre-treatment for underground detention system (MS4 Structure 139), at George Washington Village
    - ***BMP 18***, a Contech 360 StormFilter used as pre-treatment for underground detention system (MS4 Structure 5553), at George Washington Village
    - ***BMP 233B***, a Hydrodynamic Downstream Defender at Cedar Grove Village
- No enforcement actions were needed or taken to ensure maintenance of FRBC SMFs

During the 2020-2021 reporting period an additional 11 privately owned SMFs were installed as a part of the National Museum of the United States Army (NMUSA) project. NMUSA is responsible for their own inspection and maintenance.

- No inspections or maintenance were reported by NMUSA for these SMFs during this reporting cycle.
- No enforcement actions were needed or taken to ensure maintenance of NMUSA SMFs

DPW-Environmental ensures these privately-owned SMFs are inspected at least once every five (5) years to confirm that proper maintenance is being conducted. A total of 34 inspections were conducted by DPW at the FBRC Villages this reporting period. Of the 34 inspections:

- two (2) SMFs were noted as requiring maintenance. Both SMFs (4582 and 5340) were found to be on FBRCs list for inspection and maintenance during the 2022-2023 reporting period.
- DPW did not conduct inspections at NMUSA during this reporting period.

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 has 238 publicly owned and operated SMFs, including the 15 new public SMFs installed or identified between 2020 and 2022. These SMFs are within the borders of the Garrison but 45 of them are outside the MS4 regulated area. Under the Base Operations contract, the contractor, Aleut, is responsible for both the inspections and maintenance of all publicly owned SMFs.

When performing inspections Fort Belvoir currently uses a grading system to rate the functionality of each SMF with a '1' rating meaning it is fully functional and an '5' rating meaning it is structurally and/or functionally deficient or inaccessible. Facilities earning a '1', '2', or '3' are considered to have passed the inspection for the year. Facilities found to be rated at a '4' or '5' require significant maintenance or repairs outside of routine activities (mowing, litter, etc.) and will receive a fail until the discrepancies are fixed. A summary of the ratings is provided in Table 4 below.

Table 4: SMF Inspection Rating System

Rating	Status	Description
1	Fully Functional	Structure/facility is not in need of non-routine maintenance and is operating as designed/intended. Continue routine maintenance.
2	Minor Defects	Minor structural or functional defects. Operates to design specifications. Preventative or non-routine maintenance is required. This includes needing mowing or removal or trash and debris.
3	Acceptable	Acceptable/Anticipated Structural and Functional Deterioration. Operating effectively. Preventative or non-routine maintenance required. This includes needing tree or woody growth removal, sediment removal, replanting, mild erosion stabilization, rip rap replacement and minor unclogging.
4	Major Defects	Major structural or functional defects. Preventative or non-routine maintenance is required. This includes needing major erosion repair, complete replanting (including tree boxes with dead trees, severe unclogging, replacement of inappropriate plantings, or replacement of non-functional piping.
5	Deficient	Structurally/Functionally Deficient. In need of immediate replacement or rehabilitation. This rating was given if SMF was completely inaccessible due to vegetation or security and therefore could not be evaluated and if the SMF has completely failed.

During the July 1, 2021 to June 30, 2022 reporting cycle the Base Operations contractor performed inspections of 128 publicly owned and operated SMFs. Inspections were not completed for the ten (10) new SMFs, that were added during the current reporting period or the five (5) public SMFs that were brought online during the 2020-2021 reporting period as these have not yet been added to the Base Operations contract.

These new SMFs will be added to the contract via a modification and the Base Operations contractor will be provided an updated list of SMFs for inspection and maintenance for the 2022-2023 reporting period.

The inspection results from 2021-2022 found:

- Four (4) facilities rated at a '4', and none were rated a '5'.
    - One (1) of these facilities had maintenance performed shortly after the inspection to repair some gully erosion.
    - Three (3) of the facilities will have work orders entered for maintenance to occur during the 2022-2023 reporting period.
- In the previous reporting period, there were 24 facilities rated at a '4' and one (1) rated at a '5'. Any significant maintenance done is discussed below.

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

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

Currently, all routine and non-routine maintenance for public SMFs on Fort Belvoir are the responsibility of the Base Operations contractor under an overarching contract which includes the inspection of SMFs as well as regular/significant maintenance as required to maintain functioning SMFs per the General Plan for Stormwater Management Facility Inspection and Maintenance.

Aleut reported maintenance and repairs of varying complexity on 16 SMFs during the 2021-2022 reporting period. This included:

- Repairs to side slopes due to animal burrows at five (5) SMFs
- Backfill and stabilization of eroded slopes or other areas at eight (8) SMFs
- Removal of accumulated sediment/debris to restore capacity at six (6) SMFs
- Removal of large trees, overgrowth, woody vegetation at five (5) SMFs

Per discussion with VADEQ on January 20, 2022, Fort Belvoir understands that VADEQ would like an indication of any enforcement taken regarding maintenance of Stormwater Management Facilities (SMFs) during the reporting period.

During this reporting cycle, there was one (1) Non-Conformance Report (NCR) detailing the contractor's failure to provide preventative maintenance, missing inspection logs, or failure to perform required maintenance of SMFs found to be deficient in a timely matter. The NCR was drafted and submitted to the Contracting Officer Representative (COR) on October 8, 2021 and routed to the Contracting Officer (KO) and the U.S Army Mission and Installation Contracting Command (MICC). The NCR is currently in the technical review process, Fort Belvoir Environmental is awaiting a response.

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 submit for and obtain a Construction General Permit with VADEQ and assumes that a CGP cannot be closed until all requirements are met. Please see the Fort Belvoir MS4 Program Bulletin #1, available online at the Fort Belvoir Environmental Webpage.

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, 2022 all ten (10) BMPs that were added during the 2021-2022 reporting period have been entered into the BMP Warehouse:

- Three (3) projects, resulting in a total of five (5) structural BMPs were completed during the 2021-2022 reporting period.
- One (1) project, resulting in a total of five (5) structural BMPs was completed in 2013, and SMFs were not captured in the database but were identified during a field investigation completed on March 26, 2022. A document search in Fort Belvoir's project library identified as-built record drawings from 2013 which were then used to complete reporting.
- Additionally, corrections were made to the location coordinates of one (1) structural BMP previously reported 8009 (FTBEL-2021-00406850).

Fort Belvoir has also uploaded annual Street Sweeping BMPs information into the warehouse and has updated reporting for Stream Restorations to account for the protocol and reductions as specified in the latest guidance for reporting BMPs with multiple measurements. This should capture the full scope of BMPs used by Fort Belvoir in the management of Stormwater quality and to meet TMDL requirements.

vi. Review of MCM#5 Program Effectiveness

For the reporting period, July 1, 2021 - June 30, 2022, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the 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.
- Used a Virginia Certified SWM Inspector to conduct 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 and stormwater management facilities (SMFs) were completed

throughout the permit cycle with the last update occurring on June 24, 2022. The updates included all Outfalls and SMFs brought online and/or identified on August 13, 2021, March 26, 2022, May 4, 2022, and June 20, 2022 as required by Part I.E.3.a.(1), (2) and Part I.E.5.d.(1) – (9).

- Fort Belvoir conducted inspections on 128 publicly owned and 34 privately owned stormwater management facilities to determine maintenance requirements and ensure efficacy.
- Conducted routine maintenance on publicly owned SMFs located throughout Fort Belvoir.
- Conducted maintenance and repairs of varying complexity on 16 publicly owned SMFs and 33 privately owned SMFs.
- Reported new structural BMPs added during the reporting period, corrected information reported for one (1) structural BMP, reported annual street sweeping information, and updated stream restorations entries to match current reporting guidelines.

All BMPs (BMP 5.1 and 5.2) for the Post-Construction Runoff Control MCM continue to remain effective and meet permit requirements. Implementation of each BMP needs to be evaluated since they are reliant on other entities, such as the Base Operations Contractor, performing their duties. The Program Plan called for conducting inspections and maintenance of SMFs in accordance with the General Plan for Stormwater Management Facility Inspection and Maintenance, dated September 2019; reporting new and annual SMFs, inspections, and maintenance to the BMP Warehouse; and coordinating with tenant commands/RCI (now FBRC) to ensure maintenance is completed for privately owned SMFs noted as deficient. How Fort Belvoir achieved compliance with these goals is discussed below.

BMP 5.1 Conduct Annual Inspections and Maintenance of SMFs

For post-construction management of SMFs Fort Belvoir implements an inspection and maintenance program as per Part I.E.5.b. All procedures developed to ensure adequate long-term operation and maintenance of SMFs are documented in *General Plan for Stormwater Management Facility Inspection and Maintenance*, dated September 2019.

In general, all Fort Belvoir SMFs owned or operated by DPW are considered “publicly owned” and are covered under the DPW O&M contract that is valid for five years (2018-2023). Per the contract, these public SMFs should be inspected annually as per Part.I.E.5.b.(2) and are maintained by the O&M contractor. Some Fort Belvoir tenant commands and the privatized housing partner, FBRC, have SMFs that are not owned or operated by DPW. These SMFs are considered “privately owned” and are not fully covered under the DPW O&M contract. These private facilities are inspected by DPW under the O&M contract at least once every 5-years per Part.I.E.5.c.(1).(a). These separate entities are required to perform their own maintenance of SMFs within their secure facilities/ground lease areas.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to conduct inspections and maintenance in accordance with the General Plan for SMF inspection and maintenance was partially met.

- Within Fort Belvoir’s MS4, there are 92 privately owned and operated SMFs and 238 publicly owned and operated SMFs for a total of 330 SMFs. During the reporting period 180 SMFs were inspected by either the Base Ops contractor, FBRC, or by both entities
- The Base Ops Contractor was responsible for implementation of annual SMF inspections at all publicly owned facilities and a quarter of the privately owned facilities as called for in the plan.

  - Operational inspections required by the plan were completed by the Base Ops Contractor using certified personnel for 128 publicly owned SMFs during the reporting cycle.
  - Additionally, the Base Ops Contractor inspected 34 – more than a quarter - of the privately owned facilities.

- FBRC was responsible for completing periodic inspections for the privately owned SMFs within their jurisdiction.
  - Operational inspections required by the plan were completed by the FBRC Contractor using certified personnel for 45 SMFs during the reporting cycle.
- All inspections completed by the Base-ops contractor and FBRC during the 2021-2022 reporting period were completed following protocols in the *Fort Belvoir's General Plan for Stormwater Facility Inspection and Maintenance* dated September 2019.
  - Inspections were documented using the forms developed for each type of SMFs and contained in the plan.
  - The inspection results for all 207 inspections were then reviewed, and an overall condition rating, as shown in Table 4, was generated for each SMF to assist in prioritizing maintenance. Maintenance for SMFs that received condition ratings of 4 or 5 were prioritized.
    - The 207 inspections covered 180 different SMFs since 27 inspections were completed on the same SMF by both the Base Ops Contractor and FBRC.
- The majority, 174 (or 96.6%), of the 180 facilities inspected received a rating of Conditions 1, 2, or 3 where at most they were due for preventative maintenance. Under the Fort Belvoir Base Operations Contract, Aleut must perform routine preventative maintenance on all public facilities that receive a rating of 1, 2, or 3.
- Six (6) (or 3.3%) of the 180 facilities inspected received a 4 or 5 rating and were recommended for non-routine maintenance.
  - Two (2) of these facilities are privately owned, and FBRC has plans to conduct maintenance activities during the next reporting period.
  - Four (4) of these facilities are publicly owned, and based on the Plan and Contract requirements, once an inspection was completed the Base-Ops contractor was responsible for submitting work orders, or DMOs, immediately if non-routine maintenance was required.
- The sequence of inspection to maintenance was not performed as described in the plan due to changes in personnel and misunderstanding of the process. Therefore, only maintenance requests submitted directly by DPW-Environmental were accomplished during this reporting period.
  - One (1) of these facilities had maintenance performed shortly after the inspection to repair some gully erosion.
  - Three (3) of the facilities will have work orders entered for maintenance to occur during the 2022-2023 reporting period. Identified maintenance needs included work such as:
    - Removal of sediment/debris,
    - Removal of woody vegetation,

- Cleaning of inlet/outlet structures or riprap, and
- Repair of erosion and stabilization.

- The Inspection and Maintenance plan, inspection and maintenance logs, and BMP location maps are available upon request.
- Fort Belvoir also continuously monitors work requests submitted during previous reporting periods to ensure SMFs maintenance are occurring as soon as possible.
    - A total of 24 historical work requests were open at the beginning of the 2021-2022 reporting period
    - 16 of these work requests were completed during the 2021-2022 reporting period
    - Eight (8) historical work requests remained open for completion during the 2022-2023 permit
- Fort Belvoir will continue to track progress on the open work requests during the 2022-2023 reporting period and will report accordingly in the next annual report.

The measurable goal to electronically report, by October 1 of each year, all SMF inspection and maintenance completed during the reporting period using the DEQ BMP Warehouse was met.

- Reporting of completed inspections and maintenance for the 2020-2021 reporting period to the BMP warehouse was completed on September 30, 2021.
- Reporting for the 2021-2022 reporting period is scheduled to be completed by September 30, 2022.

The measurable goal to coordinate with tenant commands and FBRC to ensure maintenance is completed for privately owned SMFs noted as deficient was met.

- Fort Belvoir inspects a quarter of the privately owned SMFs during each reporting period and inspects each privately owned SMF at least once every five (5) years to ensure that proper maintenance is being conducted by FBRC.
    - A total of 34 inspections were conducted by DPW at the FBRC Villages during this reporting period. Of the 34 inspections, two (2) SMFs were noted as requiring maintenance.
    - Both SMFs (4582 and 5340) were found to be on FBRCs list for inspection and maintenance during the 2022-2023 reporting period.
- In addition to the SMF inspections conducted by DPW, FBRC contracted Blue Heron Leadership Group, 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 FBRC.
    - The FBRC conducted inspections of 45 facilities and performed maintenance and repairs on 33 of the facilities.
    - An additional 7 SMFs were identified as requiring maintenance scheduled to be completed in during the 2022-2023 reporting period.
    - FBRC supplies DPW-Environmental an after action report detailing all inspections completed and maintenance conducted as well as a schedule for implementation the following year.

BMP 5.2 Maintain an Electronic Database of SMFs that discharge into the MS4

Part I.E.5.d requires USAG FB to maintain an electronic database or spreadsheet of all known SMFs (both public and private) that discharge into the MS4. The database shall also include all Best Management Practices (BMPs) implemented to meet the Chesapeake Bay TMDL load reductions. Fort Belvoir led a large effort during the 2018-2019 reporting cycle to evaluate available GIS data, 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 of Part I.E.5.d.(1)-(9).

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to update the database of SMFs within 30 days of a new SMF being brought online, a new BMP being implemented to meet a TMDL load reduction, or an existing SMF being discovered per Part I.E.5.e was met.

- The databases, GIS, and information tables were updated within 30 days for all new facilities brought online during the reporting cycle, with the last update completed on June 24, 2022.
    - Updates were completed to capture all five (5) SMFs brought online on August 13, 2021, May 4, 2022, and June 20, 2022.
    - Updates were completed to capture another five (5) existing SMF discovered on March 26, 2022.
    - A total of ten (10) facilities, shown in table 3 and Appendix B were added to the system and assigned new facility numbers during the reporting period.
- In addition to updates completed to account for changes occurring during the current reporting cycle, the GIS system was also updated to capture SMFs associated with two (2) projects completed during the 2020-2021 reporting period.

The measurable goal to electronically report, by October 1 of each year, any SMFs and/or BMPs implemented during the reporting period using the DEQ BMP Warehouse, per Part I.E.5.g was met.

- Updates to the BMP warehouse were completed on September 30, 2021 and included:
    - Reporting five (5) new SMFs installed during the 2020-2021 cycle (8000, 8001, 8002, 8009, and 8010)
    - Correcting Information for 11 SMFs previously reported to the warehouse (9018-9021 and 9023-9029)
    - Reporting completed inspections and maintenance for the 2020-2021 reporting period
    - Reporting annual street sweeping completed within the Lower Accotink Creek
- Updates to the BMP Warehouse to capture changes from the 2021-2022 reporting period are scheduled to be completed by September 30, 2022 and will include:
    - Reporting Ten (10) new SMFs installed and/or discovered during the 2020-2021 cycle,
    - Annual street sweeping completed throughout the installation, and
    - Updating stream restorations entries to match current reporting guidelines.

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, in the form of BMP Fact Sheets. The Fact Sheets received major updates in 2019 and are reviewed annually to identify any required updates. The Master SWPPP identifies 12 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 SWPPPs developed for these facilities.

The BMP Fact Sheets are also distributed on an as needed basis to other individuals and/or tenant commands when issues are noted during inspections or additional guidance is requested. The BMP Fact Sheets make it easy to distribute to various O&M contractors, tenant commands, privatized housing and others 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. During the 2021-2022 reporting cycle these BMP factsheets were reviewed but no updates were made. Although a POC name was noted to be incorrect the associated contact number remained the same. No new BMP Fact Sheets were developed. All current Fact Sheets are available on the Fort Belvoir Environmental website under the Programs and Documents. 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 (Wall Poster)
- 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 (Wall Poster)
- 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

Fort Belvoir's Combined Master SWPPP for Industrial and MS4 permits was completed and became effective on March 31, 2017. The 2017 SWPPP identified twelve (12) locations that were not covered under a separate permit, and which met the definition of High Priority Facilities (HPF) as defined in 9VAC25-890-1 or where an illicit discharge has been reported or there is a high potential for spills, leaks, or unauthorized discharges. This included a Motorpool, three laydown areas, a horse stable, a golf cart maintenance facility, the auto skills center, and some dining facilities. These HPFs were each assigned a MS4 HPF Identifier (ID) from HPF-001 through HPF-012.

As required by Part I.E.6.e, HPFs are be evaluated annually to determine whether a SWPPP is required based on site operations and conditions. A modified Virginia DEQ No Exposure Certification Form is used to document exposure conditions at each facility as compared to the evaluation criteria spelled out in permit Part I.E.6.c.(1) – (9). The permit states that if the facility is determined to be a high-priority facility with a ***high potential*** to discharge pollutants, the permittee shall develop a SWPPP meeting the requirements of Part.I.E.6.d no later than December 31 of that same year.

- Based on the evaluations completed during the 2021-2022 reporting period it was determined that eight (8) facilities classify as a high priority facility with the potential to discharge pollutants and four (4) facilities met all conditions of non-exposure.
- All eight (8) facilities determined to need a SWPPP already had one and therefore, no new SWPPPs were developed although, splitting a SWPPP into two was recommended for the next reporting period.
- 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 2021-2022 HPF evaluation discussed above included continuing the more frequent facility inspections at AAFES as well as providing additional training/guidance to commercial facilities and distributing informational materials to handout or place around these facilities to educate employees of best management practices (BMPs). Major findings from this year's evaluation that resulted in or will result in SWPPP modifications/closure included:

- One (1) facility, AAFES (HPF-002), continued to have non-compliance issues even after training and an increase of inspection frequency therefore it was recommended that it be split into two separate HPFs (HPF-002A and HPF-002B) due to differing management groups and distinct area of responsibilities.
    - HPF-002A would refer to operations occurring at the AAFES Exchange (PX) out of building 2321 and HPF-002B would refer to operations at the AAFES Commissary at building 2325.
    - The current SWPPP will be reviewed and revised as needed to cover only the PX
    - A separate SWPPP needs to be developed for HPF-002B covering the Commissary and is due to be issued in December 2022.

- One (1) facility, the Auto Skills Center (HPF-006), ceased operations and closed in July 2021. Therefore, the facility was de-listed, and the SWPPP for the facility was closed per Part I.E.6.h.
- One (1) facility, the Bowling Alley (HPF-009), was closed for operations but continues to store equipment and materials outdoors. The evaluation recommended review and reissuance of the SWPPP once the facility re-opens.
- One (1) facility, the Community Hospital (HPF-010), had previously been noted to have cleanliness issues with the use of a trash compactor and spills associated with the unloading of dumpsters, therefore a SWPPP was issued in December 2020.
    - In 2021 multiple meetings were held with hospital personnel to delineate areas of responsibility since the issues noted were being caused by the installation's solid waste contractor.
    - DPW recognized that since the issues were being caused by a different party issuance of a SWPPP to the Hospital itself would be ineffective in achieving compliance. Therefore, after this year's evaluation resulted in minimal findings the SWPPP for the facility was closed.
    - The facility's loading dock will continue to be monitored via windshield inspections, route 4, and training of hospital personnel was expanded to include facilities personnel responsible for the loading dock.
- One (1) vehicle maintenance facility, Precision Auto Tune Up, opened in April 2022 and was assigned a new ID (HPF-013). This facility and its operations were evaluated and found to meet all criteria for non-exposure therefore, no SWPPP was recommended

Although the evaluation showed that four (4) facilities which currently hold a SWPPP now meet criteria for non-exposure requirements, Fort Belvoir determined that the SWPPP had an impact on facility operations and therefore chose to require the facilities to continue to maintain their current SWPPP to prevent backsliding by facility operators. Minor changes were made to seven (7) Facility SWPPPs to address changes in Personnel. Table 5 below summarizes the findings, recommendations, and major modifications, if any, made to each HPF SWPPP.

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.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status **Note:** Portions of the Golf Course are currently covered under another VPDES permit. This SWPPP may require expansion in the future to cover these areas

MS4 HPF ID	Facility Name	SWPPP Required?	SWPPP Development Status	Justification	Recommendation
MS4 HPF-002A	AAFES PX (Building 2321)	Yes	Complete	The facility currently has a SWPPP, but site has been found out of compliance with requirements even after multiple rounds of training, increased inspections, and Grease Management and Spill Response Guides being posted around Facility.	**Split the SWPPP into two (PX and Commissary)** Maintain increased inspection schedule and routine windshield inspections of the area. The area is being managed by two different groups. Hence this will split into two separate HPFs with SWPPPs
MS4 HPF-002B	AAFES Commissary (Building 2325)	Yes	**Recommended Due December 2022**	The facility is currently covered under the AAFES SWPPP, but site has been found out of compliance with requirements even after multiple rounds of training and increased inspections. Therefore, the SWPPPs will be split by building and responsible party.	**Develop a SWPPP** Maintain increased inspection schedule and routine windshield inspections of the area. The area is being managed by two different groups. Hence this will split into two separate HPFs with SWPPPs
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 Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status and to cover any upcoming construction 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 waters of the state	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status
MS4 HPF-005	Caisson Stables (Building 3045)	Yes	Complete	The facility currently has a SWPPP. Site personnel were aware of proper manure storage and disposal process.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status
MS4 HPF-006	Auto Skills Center (Building 1462)	No	Complete **CLOSED** **July 2021**	The facility ceased Operations in June 2021 and was vacated in July 2021. All materials were removed from the site, which is no longer a self-service auto center and has new management.	**SWPPP CLOSED** Operations ceased and therefore Facility specific SWPPP has been closed and archived. Master SWPPP will be updated to reflect Facility Closure
MS4 HPF-007	Theote Road Housing Storage Yard	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status

MS4 HPF ID	Facility Name	SWPPP Required?	SWPPP Development Status	Justification	Recommendation
MS4 HPF-008	Housing Annex (Building 1108)	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status
MS4 HPF-009	Bowling Alley (Building 1199)	Yes	Complete	Grease is managed outside, in a dedicated storage location away from any inlets, but grease and trash management continue to be an issue and may be transported through the stormwater system.	**Site is currently closed** Site will be re-assessed once it opens back up. Current SWPPP will be updated and re-issued after the re-assessment.
MS4 HPF-010	Fort Belvoir Community Hospital	No	Not Required	Although grease is managed outside no spills associated with the unloading of dumpsters and trash compactors 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.	**SWPPP CLOSED** **Continue Training** as prescribed in the Training Plan focused on illicit discharges and targeting both Medical and Facilities personnel **Continue Monitoring** Area via windshield inspection route 4
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; Consider expanding training for connected AAFES shop focusing on spills and outdoor storage.
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 could infiltrate prior to reaching any waterway.	**Continue Training** as prescribed in the Training Plan focused on grease management and outdoor storage requirements.
MS4 HPF-013	Precision Auto Tune Up Shop	No	Not Required	Although vehicle maintenance occurs on site all source material is located under cover. Therefore, all conditions of non-exposure were met	**Continue Training** as prescribed in the Training Plan focused on preventative maintenance and material management

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.

Approximately 380 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. Two Nutrient Management Plans were updated in June 2022. Table 6 below shows all current NMPs implemented by Fort Belvoir.

Table 6: Nutrient Management Plan Summary

APPROVAL DATE	LOCATION	ACREAGE
June 28, 2022	Fort Belvoir Residential Communities Initiative – A (Cedar Grove, Colyer, Gerber, Herryford, Lewis, Vernondale Villages)	61.0 acres
June 28, 2022	Fort Belvoir Residential Communities Initiative – B (Belvoir, Jadwin, Fairfax, Park, Rossell Villages)	54.0 acres
March 14, 2020	Fort Belvoir Golf Club	119.0 acres
March 18, 2020	Missile Defense Agency Headquarters	4.4 acres
March 19, 2020	DLA/DCAA Headquarters Complex	33.0 acres
March 20, 2020	Fort Belvoir Residential Communities Initiative – C (Dogue Creek, Washington, River, Woodlawn Villages)	70.0 acres
March 18, 2020	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 572 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,* dated May 2019, and are summarized in Appendix F. 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
7/8/2021	North Post Express	Vehicle fueling operations	2	1 & 4
7/14/2021	DPW Restoration	Public Works Facilities Personnel	3	1 & 4
7/16/2021	1124 Fueling Facility	Vehicle fueling operations	2	1 & 4
7/22/2021	Community Hospital - ECOs	Corrective Actions	17	6
7/26/2021	Fire Department	Fire Department Personnel	3	1 & 4
7/29/2021	Fire Department	Fire Department Personnel	2	1 & 4

Date	Organization	Audience	Number of Attendees	Level of Training
7/29/2021	Mosby Reserve	Maintenance Personnel	4	1 & 4
8/3/2021	12th AVN - Alpha Company	Maintenance Personnel	1	1 & 4
8/4/2021	TMP Yard	Maintenance Personnel	1	1 & 4
8/9/2021	American Water Rt. 1 Waterline Replacement	RLD	13	5
8/19/2021	LRC	Maintenance Personnel	2	1 & 4
8/25/2021	NGA	Public Works Facilities Personnel	5	1 & 4
8/26/2021	Community Hospital - ECOs	Corrective Actions	17	6
9/16/2021	ADFE	Public Works Facilities Personnel	3	1 & 4
9/22/2021	Community Hospital - ECOs	Corrective Actions	12	6
10/1/2021	911th Trec	Maintenance Personnel	2	1 & 4
10/1/2021	VARNG	Maintenance Personnel	4	1 & 4
10/5/2021	DAAF Airfield Services	Public Works Facilities Personnel	8	1 & 4
10/6/2021	OSAA	Maintenance Personnel	1	1 & 4
11/3/2021	Community Hospital - ECOs	Corrective Actions	18	6
11/16/2021	ADF-E Generator Project	RLD	4	5
11/18/2021	Community Hospital - ECOs	Corrective Actions	27	6
12/15/2021	MCTID	Maintenance Personnel	20	1 & 4
1/4/2022	NMUSA Deferred Elements	RLD	5	5
1/18/2022	Community Hospital - ECOs	Corrective Actions	12	6
1/25/2022	LRC- TMP Yard	Maintenance Personnel	3	1 & 4
1/26/2022	DFMWR - Dogue Creek Marina	Recreational Facility Personnel	2	1 & 4
1/27/2022	DCNG	Maintenance Personnel	3	1 & 4
2/1/2022	Roads and Grounds	Road, Street, and Parking Lot Maintenance Personnel	38	1, 3 & 4
2/1/2022	Pest Control	Pest Management Personnel	3	1 & 4
2/2/2022	Community Hospital - ECOs	Corrective Actions	12	6
2/2/2022	LRC - Maintenance	Maintenance Personnel	2	1 & 4
2/8/2022	911th Trec	Maintenance Personnel	4	1 & 4
2/10/2022	Mosby Reserve	Maintenance Personnel	5	1 & 4
2/22/2022	Golf Course Maintenance	Maintenance Personnel	1	1, 3 & 4
3/10/2022	Various	Spill Response Personnel	115	4
3/10/2022	Various	Spill Response Personnel	20	4
3/14/2022	Oneida/Verizon/JSP	Public Works Facilities Personnel	5	1 & 4

Date	Organization	Audience	Number of Attendees	Level of Training
3/15/2022	North Post Express	Vehicle fueling operations	1	1 & 4
3/15/2022	1124 Fueling Facility	Maintenance Personnel	1	1 & 4
3/17/2022	DAAF - NVESD	Maintenance Personnel	1	1 & 4
3/17/2022	Community Hospital - ECOs	Corrective Actions	22	6
3/18/2022	DAAF - NVESD	Maintenance Personnel	2	1 & 4
3/24/2022	Precision Tune Auto Center	Maintenance Personnel	2	2, 3 & 4
3/29/2022	Golf Course - Golf Cart Maintenance	Maintenance Personnel	1	2, 3 & 4
4/6/2022	NVESD - 300 Area	Public Works Facilities Personnel	2	1 & 4
4/8/2022	Housing Annex & Theote Lay Down	Public Works Facilities Personnel	3	2, 3 & 4
4/11/2022	DLA	Public Works Facilities Personnel	3	2, 3 & 4
4/14/2022	Various	Hazardous Waste Personnel	51	3
4/14/2022	Community Hospital - ECOs	Corrective Actions	7	6
4/20/2022	Hazardous Waste <90 day facility	Public Works Facilities Personnel	3	1 & 4
4/20/2022	PX - Commissary	Food Service Facilities	5	2, 3 & 4
4/20/2022	Meade Road Contractor Lot	Public Works Facilities Personnel	6	1 & 4
4/21/2022	AMSA 91 Motorpool	Maintenance Personnel	2	2, 3 & 4
4/21/2022	Burger King	Food Service Facilities	2	2, 3 & 4
4/28/2022	Caisson Stables	MS4 HPF due to Bacteria TMDL	2	2, 3 & 4
5/3/2022	Community Hospital - O&M	Corrective Actions	3	2, 3 & 4
5/4/2022	ADFE	Public Works Facilities Personnel	2	1 & 4
5/5/2022	Community Center, Community Pools & Travel Camp	Recreational Facility Personnel	4	2, 3 & 4
5/25/2022	VARNG	Maintenance Personnel	4	1 & 4
5/26/2022	Bldg. 386 HPTC Addition	RLD	5	5
6/9/2022	Community Hospital - ECOs	Corrective Actions	16	6
6/15/2022	12th AVN - Charlie Company	Maintenance Personnel	2	1 & 4
6/21/2022	SM-1 Decommissioning	RLD	19	5
		TOTAL:	**572**	

vi. Review of MCM#6 Program Effectiveness

For the reporting period, July 1, 2021 - June 30, 2022, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on November 1, 2018:

- HPF Evaluations were completed to identify facility changes and upgrades at eleven (11) facilities previously identified as having the potential to impact stormwater quality and one (1) new facility that began operations during the reporting period (HPF-013). One facility previously on the list ceased operations and therefore the SWPPP was closed (HPF-006).
    - All eight (8) facilities determined to need a SWPPP already had one and therefore, no new SWPPPs were developed although, splitting a SWPPP into two was recommended for the next reporting period.
    - Minor changes were made to seven (7) Facility SWPPPs to address changes in Personnel.
    - Table 5 summarizes the findings, recommendations, and major modifications, if any, made to each HPF SWPPP.
- Nutrient Management Plans were implemented for 382 acres of total managed turf. Two Nutrient Management Plans were updated in June 2022.
- MS4 SWPPP, Stormwater Pollution Prevention, Illicit Discharge/Good Housekeeping, and Pre-Construction training was conducted; over 500 individuals were trained throughout the reporting period.
- The written Training Plan, dated 2019, was implemented throughout the reporting period and all planned trainings were completed. Minor updates such as updates to staff certifications and changes to operations were made.
- The Training Plan was reviewed and needed updates were noted and were in progress during the drafting of this Annual Report. The plan is scheduled to be finalized in August 2022 and will be used during the 2022-2023 reporting period. Updates planned included:
    - Incorporation of targeted training for critical audiences as listed in the Chloride TMDL Action Plan Approved by VADEQ in February 2022.
    - Updates to training slides to include necessary new TMDL information and contact information.

All BMPs (BMP 6.1, 6.2, 6.3, 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 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, Maintenance of NMPs, and to revise and implement the Training Plan. How Fort Belvoir achieved compliance with the measurable goals for MCM #6 based on the updated Program Plan is discussed below.

BMP 6.1 Written Procedures for Operations and Maintenance

Because there is not one consolidated O&M Division operating on Fort Belvoir, DPW Environmental has taken the approach of developing BMP Fact Sheets that can be distributed to various O&M contractors/tenant commands/privatized housing performing operations and maintenance functions on Fort Belvoir. BMP Factsheets for common operations are used to ensure proper guidance is being provided to assist tenants in making operational decisions that may help minimize exposure to stormwater. Each fact sheet contains a description of the activity, guidelines that identify BMPs for stormwater pollution prevention, any maintenance, if required, and spill response procedures. As described above, Fact Sheets are distributed to key facilities and personnel within a Site Specific SWPPP and are also distributed on an as needed basis when issues are noted during inspections or additional guidance is requested.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to annually review and update BMP Fact Sheets as needed was not met.

- BMP factsheets were reviewed but no updates were made. Although a POC name was noted to be incorrect the associated contact number remained the same.
    - The Fact Sheets will be updated during the 2022 – 2023 reporting period to reference a job title instead of a particular name.

The measurable goal to develop new fact sheets within 90 days of discovering a new activity/operation that may affect stormwater quality to include information required by Part I.E.6.a was not applicable as no new operations were identified this reporting period.

The measurable goal to distribute and post new and/or updated BMP Fact Sheet on the webpage within 30 days of development was not applicable as no new Fact Sheets were developed and no updates were made to existing Fact Sheets.

BMP 6.2 Develop and Implement Stormwater Pollution Prevention Plans:

Fort Belvoir completed an evaluation of facilities during the last permit cycle (2013-2018) and identified 12 facilities that are not covered under a separate VPDES permit and met the description of HPF defined in 9VAC25-890-1. As required by Part I.E.6.e, all HPFs will be reevaluated for the non-exposure exemption as well as their potential to discharge pollutants annually. Sites that are evaluated to have a high chance to discharge pollutants are assigned a MS4 HPF Identifier (ID), and a facility-specific SWPPP is developed no later than December 31, if one does not already exist.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to implement the facility specific SWPPPs and review and update after any unauthorized discharge, release, or spill was met

- SWPPPs for 10 facilities were implemented for at least a portion of the reporting period.
    - Small changes were made to seven (7) Facility SWPPPs to address changes in Personnel.
    - One (1) facility, the Auto Skills Center (HPF-006), ceased operations and closed in July 2021. Therefore, the facility was de-listed, and the SWPPP for the facility was closed
    - One (1) facility, the Bowling Alley (HPF-009), was closed for operations but continued to store equipment and materials outdoors. The evaluation recommended review and reissuance of the SWPPP once the facility re-opens.

  - One (1) facility, the Community Hospital (HPF-010), had previously been noted to have cleanliness issues with the use of a trash compactor and spills associated with the unloading of dumpsters, therefore a SWPPP was issued in December 2020. This year's evaluation resulted in minimal findings and therefore the SWPPP for the facility was closed.

- No unauthorized discharges or releases occurred at any HPF during this reporting period. Two (2) spills were noted:
  - One (1) spill occurred at AMSA91 (HPF-004) but did not result in a release. The spill was completely contained, cleaned-up, and properly reported to DPW. All procedures listed in the SWPPP were properly followed by personnel; therefore, no SWPPP updates were required.
  - One (1) grease spill resulting from a tipped over grease container occurred at the bowling alley (HPF-009) but did not result in a release. As noted above the site was closed for operations but outdoor storage was still present, and there seemed to be little to no oversite. Responsible personnel were contacted, and the issue was resolved, but the SWPPP for this site requires re-evaluation and update once operations continue.

The measurable goal to complete the annual high-priority facility evaluation to identify any HPFs that have a high potential for discharging pollutants and develop a SWPPP by December that year was met.

- Based on the evaluations completed during the 2021-2022 reporting period, it was determined that eight (8) facilities classify as a high priority facility with the potential to discharge pollutants and four (4) facilities met all conditions of non-exposure.
- All eight (8) facilities determined to need a SWPPP already had one and therefore, no new SWPPPs were developed although, splitting a SWPPP into two was recommended for the next reporting period.
  - HPF-002A would refer to operations occurring at the AAFES Exchange (PX) out of building 2321 and HPF-002B would refer to operations at the AAFES Commissary at building 2325.
  - The current SWPPP will be reviewed and revised as needed to cover only the PX
  - A separate SWPPP needs to be developed for HPF-002B covering the Commissary and is due to be issued in December 2022.

BMP 6.3 Develop and Implement Nutrient Management Programs:

Per Part. I.E.6.j, Fort Belvoir maintains and implements turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with §10.1-104.4 of the Code of Virginia, for all lands where nutrients are applied to a contiguous area greater than one acre. Fort Belvoir currently has six Nutrient Management Plans that cover a total 261.4 acres in the MS4 service area and one Nutrient Management Plan (Fort Belvoir Golf Club) that covers a total of 119 acres in the unregulated service area.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to develop new Nutrient Management Plans, as needed, for lands where nutrients are applied to a contiguous area greater than one acre was not applicable as no new areas requiring a plan were identified.

- 100% of all identified managed turf acres are currently covered by nutrient management plans

The measurable goal to review and update existing Nutrient Management Plans every three years, as needed, for the term of the MS4 permit was met.

- Fort Belvoir completed all required Nutrient Management Plans ahead of the MS4 General Permit effective date and they are all reviewed and updated by a certified nutrient management planner as needed.
- Two Nutrient Management Plans were updated in June 2022.

BMP 6.4 Implement and Maintain Written Training Plan:

The Training Plan enforces the written procedures established in accordance with Part I.E.6.a. and has been written to ensure the following, per Part I.E.6.m:

1. Field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months,
2. Employees performing road, street and parking lot maintenance receive training in pollution prevention and good housekeeping associated with those activities no less than once per 24 months,
3. Employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities no less than once per 24 months,
4. Employees and contractors who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act. Certification by the Virginia Department of Agriculture and Consumer Services Pesticide and Herbicide Applicator program shall constitute compliance with this requirement,
5. Employees and contractors serving as plan reviewers, inspectors, program administrators and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations,
6. Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations, and
7. Employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement and be documented in the training plan.

The Training Plan manages certifications for employees meeting the qualification described in (4)-(6) above. Spill Response training is provided and documented by the Spill Response Program Manager and Directorate of Emergency Services (DES). As per Part I.E.6.n, documentation of each training event conducted is also kept in the plan and includes the date of the training event, the number of employees attending the training event, and the objective of the training event. Training records and certifications are available upon request.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to implement the Training Plan was met

- In accordance with the plan a total of 572 individuals received training on stormwater pollution prevention (P2) which included in-person and virtual 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.

HPF Training: Representatives from 12 facilities defined to be HPF (10 facilities had a SWPPP for at least a portion of the reporting period) were trained. The only facility where employees did not receive direct training was the Bowling Alley (HPF-009) as the facility was closed for operations throughout the cycle and therefore training was only provided to leadership in charge of the facility.

Target Audience Training:

- **DPW Personnel:** Fort Belvoir Directorate of Public Works (DPW) are trained in accordance with requirements specified in the MS4 General Permit. Fort Belvoir is required to provide biennial Level 3 & 4 training to applicable field personnel. All Fort Belvoir DPW employees are usually trained once a year in the recognition and reporting of illicit discharges utilizing the DPW All Hands meeting forum. Due to COVID-19 restrictions, there was no DPW All Hands training opportunity during this reporting period; no DPW personnel were trained during this period.
- **Stormwater Program Team:** All team members performing ESC and/or SWM Inspections maintained active certifications with VADEQ for the entire reporting period.
- **RLDs:** All construction permitted under a Construction General Permit (CGP) must submit RLD certifications to DPW MS4 Stormwater Program Manager prior to the start of the project. All RLD Personnel and other pertinent site employees receive Level 5 training to address erosion and sediment control concerns before construction begins on-site. A total of 46 people associated with 5 large construction projects received level 5 – preconstruction training during the reporting cycle.
- **NMP:** The Fort Belvoir DPW ED Forester maintained Commonwealth of Virginia Department of Conservation and Recreation (VDCR) certification as a Turf and Landscape Nutrient Management Planner in accordance with state requirements effective through August 31, 2023.
- **Pest Management:** The DPW Pest Management Program Manager is certified by DoD in multiple categories through October 31, 2022. The Fort Belvoir Pest management program currently has two (2) Virginia Department of Agriculture and Consumer Services (VDACS) certified applicators that were certified throughout the reporting period.
- **Road, Street, and Parking Lot Maintenance:** Fort Belvoir DPW employs one Base Operations and Maintenance contractor who is responsible for all road, street, and parking lot maintenance across the installation including but not limited to: snow removal, deicing, and street sweeping. All Roads and Grounds employees receive a minimum of Levels 3 & 4 of Training. A total of 38 people were trained for Stormwater Awareness Training.
- **Recreational Facilities:** Fort Belvoir Directorate of Family and Morale, Welfare and Recreation (DFMWR) manages several recreational facilities including pools, golf courses, marinas, car washes, restaurants, etc. Personnel from these facilities receive differing levels of training depending on site operations. A total of 13 employees working or responsible for key aspects of operations at these facilities received a combinations of levels 1, 2, 3, and/or 4 Training.
- **Maintenance and Public Works Facilities Personnel:** To support Fort Belvoir's needs, there are many maintenance and public works facilities across the installation. All employees responsible for operating such facilities are required to receive a minimum Levels 3 & 4 of Training conducted by Stormwater Program Personnel to ensure proper stormwater pollution prevention. These operations include those responsible for vehicle maintenance, fueling, communications, firefighting, and health and safety. A total of 116 people were trained in the category during this reporting period.

- **RCRA Hazardous Waste Handlers:** All industrial hazardous waste generated by garrison tenants (non-family housing residents) is removed utilizing services contracted by Defense Logistics Agency for proper disposal. Three (3) personnel from the Hazardous Waste <90 day facility were trained in Levels 1 and 4 this cycle. Additionally, 51 employees responsible for management of hazardous waste at satellite accumulation areas across the installation received Level 3 Training. This ensures that those handling hazardous materials and wastes are aware of water quality issues and preventative measures that can be taken at the facility.
- **Spill Response Personnel:** Oil Spill Response and Recovery Training classes are conducted annually at Fort Belvoir and cover Spill Response and Reporting procedures. Pollution Prevention/Illicit Discharge training is provided as a part of the First Responder Awareness Course, for personnel that work in or around fueling and petroleum distribution facilities. A Total of 135 employees received Level 4 training during this cycle.

The measurable goal to review and revise the written training plan, as needed, was partially met.

- The written Training Plan was last updated in 2019 and was implemented throughout the reporting period as discussed above. Minor updates such as updates to staff certifications and changes to operations were made.
- The Training Plan was reviewed and needed updates were noted and were in progress during the drafting of this Annual Report. The plan is scheduled to be finalized in August 2022 and will be used during the 2022-2023 reporting period. Updates planned include:
    - Incorporation of targeted training for critical audiences as listed in the Chloride TMDL Action Plan Approved by VADEQ in February 2022.
    - Updates to training slides to include necessary new TMDL information and contact information.

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 completed additional updates to the Plan in October 2019, where a public comment period was open until October 25, 2019. No comments were received, and the Plan was finalized and submitted to VADEQ in a letter dated October 28, 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 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 and discovered during the reporting period.

Fort Belvoir has made note of the changes to reporting of stream restoration projects in the BMP Warehouse and that pollutant reduction calculations for street sweeping operations after June 30, 2022 must be reported using the new methodology. Fort Belvoir is prepared to make the appropriate adjustments when entering these into the BMP Warehouse by October 1, 2022 to ensure they get properly captured in the 2022 progress report.

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 based on the current Chesbay Plan, dated October 2019, no new credits are required for Fort Belvoir to achieve the required reductions by 2027, there were ten (10) SMFs, shown in Table 3 brought online or discovered during the reporting cycle that would provide additional credits.

Information on these SMFs is provided in Appendix B and will be uploaded into the BMP Warehouse by October 1, 2022 as required by Part I.E.5.g. Additionally, inspections and maintenance completed on all historical SMFs will be uploaded into the BMP warehouse.

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 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 over 300 SMFs reported within the DEQ BMP Warehouse. Implementation of the TMDL Action Plan, not including SMFs and using the qualifying lane mile methodology, resulted in the following cumulative reduction of pollutants of concern in the Potomac River Basin:

Table 8: ChesBay Cumulative Reductions Achieved

Pollutant of Concern	Required Reduction by 2027 (lb./yr)	Cumulative Reduction Achieved * (lb./yr)	Percentage of L2 Reduction Achieved	
			Based on 2000 Census Data	Based on 2010 Census Data
Total Nitrogen	2495.81	2,949.08	126%	**118%**
Total Phosphorous	236.19	804.57	266%	**341%**
Total Suspended Solids	183,757.45	1,033,048.73	390%	**562%**
Note: The Cumulative Reduction Achieved shown in this table and in the 2019 Phase II Chesbay Action Plan uses Guidance Memo No. 15-2005.				

Fort Belvoir recognizes that based on updated Guidance Memo No. 20-2003 released on February 6, 2021 that changes in approved calculation methods may result in a lower achieved reduction. This is especially notable in the reductions currently achieved via street sweeping which are reported annually. Based on the new guidance VADEQ states:

> *Pollutant reduction calculations for street sweeping operations after June 30, 2022 must be reported using the new methodology. If an MS4 is short of the minimum 40% cumulative reduction requirements, this shortfall will need to be addressed with increased sweeping effort, or some other strategy(s).*

Table 9: Estimated ChesBay Cumulative Reductions Achieved based on New Methodology

Pollutant of Concern	Reduction Achieved Qualifying Lane Mile Method (lb./yr)	Reduction Achieved based on New Methodology (lb./yr)	Estimated Cumulative Reduction Achieved * (lb./yr)	Percentage of L2 Reduction Achieved
				Based on 2010 Census Data
Total Nitrogen	2,068.26	452.87	1,333.6	**53%**
Total Phosphorous	322.33	130.54	612.78	**260%**
Total Suspended Solids	872,964.85	188,773.45	348,857.33	**190%**
Note: The Cumulative Reduction Achieved shown in this table assumes the same amount of street sweeping in acres (post wide) and passes (SCP-4) as noted in the 2019 Phase II Chesbay Action Plan but uses new methodology in Guidance Memo No. 20-2003				

Based on current calculations the completed implemented projects exceed the L2 reduction requirements for TP and TSS when compared to existing loads based on 2010 Urban Census Data, as detailed in Tables 8 and 9 above. When new methodology is used to calculate street sweeping credits, Fort Belvoir falls behind on reduction goals for TN, as shown in Table 9, but notes that currently the Plan does not consider reductions from SMFs which are also reported to the BMP warehouse. During the next Chesbay plan update, Fort Belvoir plans to include calculations and reductions achieved through installation of SMFs to evaluate whether it would accomplish the required reductions goals for 2027.

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 2022-2023 Reporting Period

Planned BMPs	Project	Approximate BMP Extent
3 x Jellyfish, 2 x Isolator Rows, 2 x Level 1 Bioretention	ADFE Sailfish	4.20
1 x Level 1 Bioretention, 2 x Underground Detention Systems, 2 x Filterra Units	Dogue Creek Village	2.29
8 x Level 1 Bioretention, 16 x Bio Pod Units	Woodlawn Village	8.96
1 x Level 1 Bioretention Unit	ADFE Duct Bank	0.39
1 x Level 1 Bioretention Unit	Bldg. 2297 Drainage Correction	0.17
Monthly Street Sweeping	Sweeping within MS4 Area	1000+ acres

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.
- Funding was re-directed to the Outfall 015 Project that also includes implementation for the outfall requirements for the regional pond that was installed. The project is currently under design by the U.S. Army Corps of Engineers, Engineering Division.
- One (1) stream restoration project, not included in the Chesbay Plan, is planned for an unnamed tributary to Dogue Creek near George Washington Village and has plans approved by VADEQ on November 24, 2021. This project is currently out for construction bids and is planned for the next permit cycle.

The only BMPs that are required to be conducted and reported annually to maintain the annual load reduction credit is street sweeping. Projected street sweeping for the 2022-2023 reporting period is shown in Table 9 above. Achieved street sweeping credits for 2021-2022 permit is shown in Table 15 below.

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. The BMPs for implementation of the approved 2019 Chesbay TMDL Action Plan have been incorporated into the MS4 Program Plan. Because goals of the Phase I and Phase II WIPs were found to have already been met by Fort Belvoir, the 2019 Chesbay TMDL Action Plan focused on what should be done to maintain credits already achieved. This is reflected in the BMP CHESBAY.1 discussed below.

BMP CHESBAY.1 Chesapeake Bay TMDL Action Plan Implementation:

Based on current calculations in the 2019 Chesbay Action Plan, completed implemented projects far exceeds 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 11 below. Therefore, no additional BMPs were necessary to meet pollution load reduction goals and consequently, the Phase II TMDL Action Plan focuses on credit verification and maintenance. Below is a summary of the actual progress made towards achieving the identified measurable goals and a status report of how each goal was met and/or what is necessary to meet the minimum 40% cumulative reduction requirements.

Table 11: Actual ChesBay Cumulative Reductions Achieved based on New Methodology

Pollutant of Concern	Required Reduction by 2027 (lb./yr)	Cumulative Reduction Achieved * (lb./yr)	Percentage of L2 Reduction Achieved	
			Based on 2000 Census Data	Based on 2010 Census Data
Total Nitrogen	2495.81	1,052.05	44%	**44%**
Total Phosphorous	236.19	539.20	174%	**228%**
Total Suspended Solids	183,757.45	224,985.02	85%	**122%**
Note: The Cumulative Reduction Achieved shown in this table is based on actual reductions achieved and discussed below.				

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to inspect and maintain the Regional Stormwater Pond and address any deficiencies noted during inspections within one year was met.

- The Regional Stormwater Management Basin was completed in July 2018
- The pond treats a total of 59.42 acres with 29.98 acres being pervious and 29.44 acres being impervious.
- The Regional Pond was inspected on March 7, 2022 and inspection noted only minor issues with woody growth at some inlets, therefore no significant maintenance was required.
- Reductions achieved from the Regional Pond are summarized in Table 12 below

Table 12: Credits and Verification of the Regional Stormwater Pond

BMP Name/Type	Year Completed	Inspection Date	TN Reduction (lb./yr)	TP Reduction (lb./yr)	TSS Reduction (lb./yr)
Regional Stormwater Pond Centralized Facility	2018	3/7/2022	159.65	12.0	23,852.49
Total Reductions			**159.65**	**12.0**	**23,852.49**

The measurable goal to inspect and verify functionality of the nine (9) stream restoration projects considered in the plan once every 5 years and address any deficiencies noted during inspections within one year was met.

- The nine (9) stream Best Management Practices were completed between 2009 and 2018
- Verification of older stream restoration and shoreline management projects was completed by Fort Belvoir during the 2018-2019 and the 2020-2021 reporting periods.

- Verification of long-term performance was completed for the Surveyor Rd, North Area, Hospital West, and Herryford stream restoration projects in 2019.
- Verification of long-term performance was completed for Meade Road in 2020.
- All assessments determined that the projects remain effective and can maintain credits for another 5 years.

- No stream restoration verifications were completed for this reporting period, however, for the next reporting period American Water (AW) stream restorations 5a, 5b, 7, and 8 and ADFE stream restorations are due for verification.
- An additional stream restoration project was completed in 2019 and restored 210 linear feet using natural channel design near the NMUSA project site, resulting in additional reductions.
- Reductions achieved from the Stream Restoration Projects are summarized in Table 13 below

Table 13: Credits and Verification of Stream Restoration Projects

BMP Name/Type	Year Completed	Year Verified	TN Reduction (lb./yr)	TP Reduction (lb./yr)	TSS Reduction (lb./yr)
Surveyor Rd Stream Restoration	2009	2019	121.88	110.50	24,586.25
North Area Stream Restoration	2011	2019	9.60	8.70	1,936.64
Meade Stream Restoration	2016	2020	52.13	47.26	10,515.35
Hospital west Stream Restoration	2010	2019	69.00	62.56	13,919.60
Herryford Stream Restoration	2011	2019	109.13	98.94	22,014.15
AW - 5a and 5b Stream Restoration	2017	**Due 2022**	10.50	9.52	2,118.20
AW – 7 Stream Restoration	2017	**Due 2022**	22.13	20.06	4,463.35
AW – 8 Stream Restoration	2017	**Due 2022**	17.59	15.95	3,547.99
ADFE Stream Restoration	2018	**Due 2023**	83.18	75.41	16,779.17
NMUSA Natural Channel Design	2019	**Due 2024**	15.75	14.28	3,177.30
		Total Reductions	**510.89**	**463.18**	**103,058**

The measurable goal to inspect and verify functionality of the two (2) shoreline management projects considered in the plan once every 5 years and address any deficiencies noted during inspections within one year was met.

- The two (2) shoreline management projects were completed between 2010 and 2014
- Verification of older stream restoration and shoreline management projects was completed by Fort Belvoir during the 2018-2019 reporting period.

- Verification of long-term performance was completed for the 500 linear feet of shoreline at Tompkins Basin and for the 104 feet of seawall and 196 foot wave screen at the 300-Area marina in December 2018.
- The Tompkins Basin Shoreline Restoration Project is functioning as expected and should continue to generate credits under the default value for the next five (5) year cycle.
- The shoreline verification of the 300 Area Shoreline determined that the 104 foot seawall remained intact but only 98 linear feet of shoreline are adequately protected by the wave screen, versus the 196 linear feet that were originally assumed.

- Adjusted reductions achieved from the Shoreline Management Projects are summarized in Table 14 below

Table 14: Credits and Verification of Shoreline Management Projects

BMP Name/Type	Year Completed	Year Verified	TN Reduction (lb./yr)	TP Reduction (lb./yr)	TSS Reduction (lb./yr)
Tompkins Basin (500 linear feet)	2010	2018	6.09	4.30	21,000.00
300-area marina (104 linear feet seawall and 98 foot wave screen)	2014	2018	2.46	1.74	8,484.00
Total Reductions			**8.55**	**6.04**	**29,484**

The measurable goal to implement and document the street sweeping program as specified under the O&M contract was not met.

- Sweeping was to be completed monthly based on Technical Exhibit SA2 of the Base Operations Contract that specifies the locations to be swept and from which snow removal is to be completed.
  - The contract specifies 13,000,481 sq.yd. (2686 ac.) of land that should be swept monthly
  - During the 2020-2021 reporting period, DPW Environmental calculated that of the total area swept, only 6,376,212 sq.yd. (1317 ac.) or 49% fell within the regulated MS4 area.
  - Records of monthly street sweeping are available upon request
- During this reporting period, the Fort Belvoir Operations and Maintenance contractor was not able to meet street and parking lot sweeping goals and reported
  - March 1, 2022 sweeper truck was out of service until 12 April 2022 (30 business days)
  - April 15, 2022 sweeper truck was out of service again and remains out of service
  - Issues with the sweeper led to less frequent sweepings and lowered the overall number of passes that occurred during the reporting period
- Based on reported data to DPW, street sweeping practices for the 2021-2022 reporting period falls under scenario SCP-5 as listed in Guidance Memo No. 20-2003 which would achieve a removal rate of 4%, 0.7%, and 2% for TSS, TN, and TP, respectively.
  - Roads were swept an average of 9 times, North Lots were swept an average of 7 times, and South Lots were swept an average of 6 times.
  - A regenerative sweeper was used each time

- Fort Belvoir relies on information within the Technical Exhibit for all street sweeping calculations and expects major changes which will require a re-evaluation of swept areas soon. Changes expected to impact the amount of acres swept include:
    - Reissuance of the Fort Belvoir Industrial Stormwater Permit VA0092771 which is anticipated to cover less areas of Fort Belvoir effectively increasing the regulated MS4 area.
    - A new Base Operations contract that is scheduled to be awarded in 2023 which may change the frequency and amount of areas expected to be swept.
- Table 15 below shows the actual reductions achieved during the 2021-2022 reporting period.

Table 15: Annual 2020-2021 Total Street Sweeping Reductions

MS4 Area Sweeping					
Watershed	**Total Acres**	**MS4 Acres**	**TN Reduction**	**TP Reduction**	**TSS Reduction**
Accotink Creek	2222.25	1089.92	128.63	35.31	51,065.99
Dogue Creek	447.86	219.66	25.92	7.11	10,291.56
Potomac River	15.94	7.82	0.92	0.25	366.29
Pohick Creek	0	0	0	0	0
Total Reductions in lbs/yr			**155.47**	**42.67**	**61,723.84**

BMP Assessment: BMP CHESBAY.1 identified in the Program Plan continues to remain effective and meet permit requirements even though shortcomings were encountered during street sweeping during this reporting period. Fort Belvoir continues to be on track to meet Phase II goals of 40% reduction even with performing street sweeping at a lower frequency than expected. Due to the new calculation methodologies, Belvoir saw a severe reduction in achieved credits and recognizes that additional measures will have to be put into place to achieve Phase III goals by 2027. Because current TMDL Plan does not take the Urban Structural BMPs already in place into account, these will be looked at as the first potential method for meeting goals.

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 received in February 2018. An additional three (3) sites were evaluated as a part of the revisions to the Plan. Only one (1) site within the MS4 service area (MP-13) was determined to have potential impacts to surface waters and will be monitored until Virginia's Water Quality Criteria is met.

Updates to the PCB TMDL Action Plan were completed in March 2020, the public comment period involved the posting of the Draft plan on the Fort Belvoir Home Page under Environmental Documents for Stormwater (http://www.belvoir.army.mil/environdocs.asp) on March 16, 2020. A Notice of Availability for the document was:

- Posted on the main Fort Belvoir Facebook page on March 16th and March 18th, 2020
- Published in the Fort Belvoir newspaper, *The Belvoir Eagle*, on March 19th and April 9th, 2020.

Fort Belvoir provided for the public comment period to be open until April 15, 2020 allowing for at least 15 days for public comment as required under Part II.A.12. Fort Belvoir DPW did not receive any comments during this period therefore the Final 2020 PCB TMDL Action Plan was submitted to VADEQ on April 28, 2020. The PCB TMDL Plan has had minor updates to sections and appendices covering sample results and site statuses in May 2021.

VADEQ reviewed the Plan and requested additional information in a letter dated March 7, 2022.

- VADEQ requested that Belvoir Indicate the effect of Resource Conservation and Recovery Act(RCRA) sites A-23, A-24, MP-11, and MP-13 to the MS4 service area.
- Fort Belvoir responded to the VADEQ request on April 28, 2022 and stated that the effect of each RCRA site on the MS4 is covered in Section 7 of the TMDL plan submitted in 2020. Belvoir noted that section 7 covers all historic PCB sites, many of which are outside of the MS4 area, and therefore, only MP-13 has direct effects to the MS4 area.
- VADEQ concurred and approved the Plan in a letter dated May 23, 2022 but required that Fort Belvoir notify VADEQ staff within 30 days of finding any previously unidentified significant source of PCBs within the MS4 service area.

The PCB TMDL Action plan 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:

PCB fact sheets and brochures were produced as a part of the PCB TMDL Action Plan to include basic information on PCBs, their hazards, identification of PCB containing equipment, and reporting procedures. Additionally, training slides on the PCB TMDL have been developed, highlighting identification, and reporting of possible PCB leaks, and have been incorporated into MS4 training materials.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to annually review and revise, as needed, the PCB educational materials was not met.

- Educational materials were reviewed, and contact information provided in brochures was not updated when there were changes in phone numbers or emails.
    - Although phone numbers were incorrect, the provided number would still connect to the environmental office where calls could be routed to the correct person.
    - Fort Belvoir plans to update all brochures and newsletters with new information prior to further distribution

The measurable goal to annually distribute PCB Brochures to outdoor recreation by ensuring it is posted at trail heads and by maintaining posting on iSportsman Website was met.

- PCB Brochures, *The Dangers of PCBs, and How You Can Help: Learn how you can protect Yourself, your Family, and the Environment,* continue to be posted at six (6) environmental kiosks to provide information to hikers and hunters on how to identify and report potential PCB containing equipment (i.e. old transformers), especially in remote areas of the installation.
- The brochure *PCB Safety and Awareness* remains available online in the iSportsman website. The iSportsman website is the access portal for hunting, fishing, and watercraft recreation at Fort Belvoir. The fishing page displays the brochure to make fishermen aware of PCBs and fish consumption. Each license application is an opportunity for the public to interact with the brochure.

BMP PCB.2 Implement PCB Sampling Plan:

PCB TMDL Action plan included sampling at two outfalls associated with one historic PCB site, referred to as the Warren and Theote Road Laydown Area (MP-13), that was found to discharge into the MS4 system. The sampling plan calls for stormwater runoff monitoring annually until Virginia WQC for tPCB based on human health risks (640 pg/L) are met for at least two sampling events or the site reaches RCRA closure. Additional historic PCB sites (A24a, MP11, MP12, MP13, and MP14) were evaluated but found to be in areas covered under a separate permit or do not have the potential to discharge to the MS4.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to implement the sampling plan for MP-13 throughout the 5-year permit cycle to monitor progress towards meeting water quality criteria at the site was met.

- MP13 underwent a RCRA facility investigation and was found to meet requirements for No further Action (NFA) under RCRA and received concurrence from VADEQ on August 23, 2021 but must maintain land use controls. The PCB GIS Layer will be updated to reflect new site status.
- Stormwater Sampling was completed at MP-13 on October 29, 2021. Runoff from the area continues to be over WQC goals as summarized in Table 16 below.
- Sampling of surface soils within earthen conveyance channels and streambed sediment on the receiving water side of the site are planned for July 2022 to determine the extent of PCBs still present and available for transport to surface waters.
- Fort Belvoir intends to continue sampling and monitoring the site and will request funds for capping and/or complete remediation to include redevelopment.

Table 16: Summary of tPCB sampling at MP-13

Sample Date	Warren-1 tPCB (ρg/L)	Warren-2 tPCB (ρg/L)	WQC for tPCB (ρg/L)
08/07/17	**692**	**2,468**	640
01/24/19	**495**	**10,456**	640
05/22/20	**11**	**39,526**	640
10/29/21	N/A	**2,628**	640

The measurable goal to monitor remediation efforts and status for active RCRA sites (A24a, MP11, MP12, and MP14) until site closure is reached was met.

- Sites A24a, MP11, MP12, and MP14 all underwent a RCRA facility investigation
  - The RCRA Facility Investigation (RFI) Report Addendum for site A-24 was submitted to VADEQ on April 17, 2020 and subsequently approved by VADEQ on June 11, 2020. Sampling was done in the ephemeral creek bed and identified "hot spots" that are slated to be removed, once plans have been approved by VADEQ, by 2026.
  - Sites MP-11, MP-12, and MP-14 were found to meet requirements for No further Action (NFA) under RCRA and internal decision document was signed by Col. SeGraves on August 20, 2021. All three sites were closed under RCRA.
  - The PCB GIS layer will be updated to reflect new site statuses during next permit cycle.

BMP PCB.MP13 Maintain Vegetative Cap at Historical PCB Site MP-13

In 2019 the Restoration Program completed an Interim Soil Removal at the Warren and Theote Road Yard (MP-13). The removal included the disposal of a large soil stockpile at the middle of the site, disposal of concrete debris across the site, and the disposal of the top 6 inches of soil from across the site. Following the removal, the site was regraded and stabilized to be a fully open grassed recreational area. Site investigations have shown that the regrading and stabilization of the site has led to less runoff and more infiltration. It is anticipated that the restoration of the site and its vegetative cover will encourage a downward trajectory of PCBs being transported in stormwater towards meeting the WQC.

The measurable goal to monitor the site for erosion and bare areas periodically through the windshield inspections completed under MCM3 was met.

- The site is monitored under the IDDE Program through windshield inspection route 5
- During the reporting cycle no issues with soil deposition or erosion was noted at MP-13 and therefore, no corrective actions were implemented.
- The soil cap has limited transport of PCBs as evidenced by the substantial drop in tPCB detected in sampling results between May 2020 and October 2021.

BMP Assessment: BMPS (BMPs PCB.1, PCB.2, and PCB.MP13) identified in the approved PCB TMDL Action Plan continue to remain effective and meet permit requirements. As mentioned above the actions taken have resulted in fluctuations in detectable tPCB being carried in stormwater off the site. Sampling planned in the conveyance channels and streambed sediment in July 2022 will be used to determine any further actions that should be taken. Fort Belvoir intends to continue sampling and monitoring the site and in the long term will request funds for capping and/or complete remediation to include redevelopment as appropriate.

b. Bacteria TMDL for the Lower Accotink Creek

The Bacteria TMDL for the Lower Accotink Creek Watershed was issued in September 2008. 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 MS4 General Permit #VAR040093 effective on November 1, 2018 requires that the permittee shall update the previously approved local TMDL action plans to meet the conditions of Part II.B.3 - 7 as applicable, no later than 18 months after the permit effective date and continue implementation of the action plan. Updates to the Bacteria TMDL Action Plan for the Lower Accotink Creek were finalized in March 2020. The public comment period involved the posting of the Draft plan on the Fort Belvoir Home Page under Environmental Documents for Stormwater on March 18, 2020. A Notice of Availability for the document was:

- Posted on the main Fort Belvoir Facebook page on March 18, 2020
- Published in the Fort Belvoir newspaper, *The Belvoir Eagle*, on March 19th and April 9th, 2020.

Fort Belvoir provided for the public comment period to be open until April 15, 2020 allowing for at least 15 days for public comment as required under Part II.A.12. Fort Belvoir DPW did not receive any comments during this period therefore, the Public Comment Section was the only section updated prior to submittal of the Final 2020 Bacteria TMDL Action Plan for the Lower Accotink Creek to VADEQ due on April 28, 2020.

VADEQ reviewed the Plan and requested additional information in a letter dated March 7, 2022.

- VADEQ stated that the TMDL action plan must clearly identify the significant sources of the pollutants of concern discharging to the MS4 not covered under a separate VDPES permit
- Fort Belvoir responded to the VADEQ request on April 28, 2022 and stated that Fort Belvoir fully assessed all known bacteria sources in Section 4 of the TMDL plan submitted in 2020.
- VADEQ and Fort Belvoir had a conference call on May 2, 2022 to further discuss the significant sources that are discussed in the plan and where VADEQ believed the assessment was lacking
- A follow-up response was submitted to VADEQ on May 18, 2022 which detailed the additional potential bacteria sources that may occur during a sanitary sewer failure occurring within the area covered by the TMDL which would include two (2) facilities, NMUSA and DLA.
    - Fort Belvoir acknowledged that potential breaks or leaks in the sanitary sewer laterals coming from these facilities may be a potential source of bacteria. This source was not considered to be significant as the lines are owned and operated by American Water and the installation has set communication plans and processes in place to immediately address any potential breaks, leaks, and/or overflows.
- VADEQ concurred and approved the Plan in a letter dated May 23, 2022.

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 Action Plan called for DPW Environmental to review proposed projects and actions and consider potential bacteria sources for any occurring within the Lower Accotink Creek Watershed. If any actions are found to be a potential source of bacteria to the watershed DPW would ensure that proper control measures/strategies are selected and implemented as required by Part II.B.4.b and detailed in Table 5 of the MS4 General Permit (Appendix A).

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to update the Action Plan as needed to include new sources and controls was met.

- Projects were reviewed and none were found to pose any additional bacteria sources therefore, no revisions were made to the plan.
- It should be noted that a previously unidentified septic tank was discovered in July 2022 due to a high-water alarm and was reported to DPW which is performing investigations and tracking under the IDDE program.
    - The tank is scheduled to be pumped out and long term plans are being made to remove it and connect the building to the sanitary sewer
    - Septic tanks were not considered a source of Bacteria in the current plan because none were previously documented to have existed on post.
    - Due to this finding, the Bacteria TMDL Action plan will be updated during the 2022-2023 reporting period to have a section on how to respond to any future tanks that are found

BMP BAC.2 Incorporate Bacteria TMDL Information into MS4 Training Program

The Action Plan 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.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to include information on the Accotink TMDL, common sources of bacteria, and strategies for bacteria reduction into Training Levels 1, 2, 3, and 5 was partially met.

- The Training Plan identifies six (6) levels of training at different magnitudes of content with Level 1 being the most extensive. Bacteria TMDL information was included and presented in Training Levels 1 – 2 materials with a primary focus on grease since this is currently the most pressing contributor for sanitary sewer overflows (SSOs).
    - Due to a shortage of personnel only Training materials for Levels 1 and 2 were able to be updated to incorporate the Bacteria TMDL information discussed above.
    - The other levels of training will be updated during the 2022-2023 reporting period along with other planned changes to the Training Plan.
- Although not all levels of training were updated, levels 1 and 2 are presented in most of the training courses held, as shown in Table 7.
    - Even though not all training covered the information the program was still able to reach 180 people across 46 separate training sessions.

BMP BAC.3 Public Education and Outreach

The Public Education and Outreach Program's main goal is to inform civilian and military personnel, residents and contractors about the steps that can be taken to reduce stormwater pollution to the maximum extent practicable (MEP). Due to this TMDL, bacteria is listed as one of the high priority stormwater issues identified in the Public Education and Outreach program discussed under MCM 1.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to publish one article annually that discusses the bacteria water quality issue, sources of bacteria, reporting information and steps that can be taken to reduce bacteria sources was not met.

- As of April 15, 2021 the *Fort Belvoir Eagle* is no longer being published in a hard copy format but continues publication online. Fort Belvoir will continue to periodically publish articles in the online version of the newspaper, but in general the Education and Outreach program has switched its focus toward publishing guest articles on the Fort Belvoir Resident Newsletter to meet these and other outreach requirements in the 2022-2023 reporting period.
    - Fort Belvoir published three (3) articles in the resident newsletter and although two (2) briefly mentioned picking up pet waste to reduce stormwater pollution, none mentioned bacteria as a water quality issue, provided examples of bacteria sources, or provided reporting information.
    - DPW environmental will continue to coordinate with the housing group to get articles published in their Newsletters and distributed directly to residents and will ensure that at least one (1) article focusing on the Bacteria TMDL is published during the 2022-2023 reporting period.

The measurable goal to distribute Pet Waste brochures throughout the housing communities and at facilities operated by the Directorate of Moral, Welfare, and Recreation (MWR) was not met.

- Pet waste brochures "*Are You Cleaning Up After Your Pet?*" normally handed out during events were not used this reporting period.
    - The brochures were previously provided to MWR to be maintained and distributed in key recreational areas such as the Travel Camp where visitors and their families vacation with their pets. Due to change in staff that occurred during this reporting period, brochures were not made available at these locations. DPW Environmental will coordinate with MWR to provide copies of applicable brochures for posting and distribution for the 2022-2023 reporting period.
    - The Pooch Plunge, an event held by housing in September, is the main opportunity for DPW-Environmental to reach the target audience for this brochure as pet owners visit the pools for one final swim prior to the end of pool season. DPW Environmental will coordinate with the housing group to participate in the upcoming event for the 2022-2023 reporting period.
- Although the brochures were not directly distributed, 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.

BMP Assessment: BMPS (BMPs BAC.1 – BAC.3) identified in the approved Bacteria TMDL Action Plan continue to remain effective and meet permit requirements even though shortcomings were encountered during the reporting period. The Bacteria TMDL Action Plan and Training Plan will be reviewed and revised in accordance with the BMPs above to better achieve the goals in future reporting periods.

c. Chloride TMDL for the Lower Accotink Creek

The Accotink Creek Chloride TMDL was approved by the State Water Control Board (SWCB) on April 12, 2018 and approved by the Environmental Protection Agency (EPA) on May 23, 2018. The Lower Accotink Creek Chloride TMDL Action Plan was completed as per Part II.B of the 2018- 2023 General Permit, which requires that the permittee shall develop and initiate implementation of action plans to meet the conditions of Part II.B.3 - 7 as applicable no later than 30 months after the permit effective date. This Lower Accotink Creek Chloride TMDL Action Plan allowed for a public comment period by being posted on the Fort Belvoir Home Page under Environmental Documents for Stormwater in April 2021. A Notice of Availability for the document was:

- Posted on the Fort Belvoir Home Page on April 7, 2021
- Posted on the Fort Belvoir Environmental Facebook page on April 8, 2021
- Published in the Fort Belvoir newspaper, The Belvoir Eagle on April 15, 2021

Fort Belvoir provided for the public comment period to be open until April 30, 2021 allowing for at least 15 days for public comment as required under Part II.B.7. Fort Belvoir DPW did not receive any comments during this period therefore, the Public Comment Section was the only section updated prior to submittal of the Final 2020 Chloride TMDL Action Plan for the Lower Accotink Creek to VADEQ due on May 1, 2021.

VADEQ approved the Chloride TMDL plan as is, with the adjusted targeted reduction values, in a letter dated February 25, 2022 and recommended:

- Removal of de-icing materials from affected roads and parking lots when they are no longer necessary to avoid an adverse impact to waterways. i.e. sweeping post storm.
- Fort Belvoir will take this into consideration during the annual post season assessment and will update the Plan accordingly.

The overall goal of this Action Plan would be to achieve reductions using the adaptive iterative approach as recommended in the Virginia Salt Management Strategy, or SaMS. To accomplish this, a program evaluation for current processes and practices; baseline and target application rates; salt storage practices; and training, education, and outreach was completed. Based on the initial assessment of practices in place, the plan then provides recommendations for improvement and a method for conducting assessments annually to determine the efficacy of the program and to refine operations.

The Action Plan also recommended BMPs, that were identified in the Virginia SaMS, that can be implemented under the MS4 permit to eliminate and/or minimize discharges of chloride sources to the Lower Accotink. The recommendations were made based on the baseline assessment completed in 2021 of operations as well as a quantitative assessment of application data collected between 2017-2020. As the plan itself is based on only this initial assessment, annual assessments shall occur to determine efficacy of the program and implemented BMPs in meeting specified limits through an iterative process.

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

BMP CL.1 Continued Maintenance of Existing Programs

Fort Belvoir has implemented and maintains several programs focused on training, education, and outreach. The initial assessment done in 2021 when developing the Chloride TMDL Action Plan found that the strategies outlined under the Training (MCM6), Education, and Outreach Programs (MCM1 and MCM2) have been effective at keeping salt usage at a minimum across Fort Belvoir. As the aspects of the current program have shown to be effective, continued maintenance to these programs and processes should remain in place.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to maintain existing MS4 program portions that were found to be effective in minimizing discharges of chloride was met.

- The Education and Outreach Plan outlines specific Pollutants of Concern (POC) to be targeted for educational materials, of which chloride is included.
- Chloride is the targeted POC in December for housing residents, military personnel, and civilian personnel through a published article. It is also targeted in January for Military personnel and civilian personnel through a Stormwater Newsletter. Posting on the Fort Belvoir Environmental Facebook page focuses on Chloride as the targeted POC in winter months. This includes tips and tricks for winter storage and application to directly engage the public.
    - A Winter article *Being Smart About Ice Melt* was distributed on December 8, 2021 and covered harmful effects of ice melt on local streams, practices for use of ice melt, and provided tips for minimizing chlorides in stormwater runoff by using shoveling, sweeping, and proper application/storage.
- Fort Belvoir has several written procedural BMP Fact Sheets that are all posted publicly and widely distributed throughout the installation to pertinent tenant operations. While these fact sheets cover a variety of information, there are four that are specifically related to chloride products.
    - BMP Factsheet 4 – Salt Storage and Loading
    - BMP Factsheet 5 – Salt Application
    - BMP Factsheet 13 – Brine Mixing
    - BMP Factsheet 14 – Aircraft Deicing Operations
- Continuing the HPF SWPPP maintenance requirement under MCM6 provides an avenue for monitoring and controlling sites that are more likely to discharge chloride due to storage activities. Fort Belvoir monitors and trains several High Priority Facilities (HPFs) due to their salt storage activities.
    - HPF-003, 007, and 008 are known areas where salt storage occurs
- The Current training plan, dated May 2019, includes TMDL Information as well as salt management practices. Storage and handling is specifically covered in both the ISW and MS4 SWPPP Training, as well as the General Stormwater Pollution Prevention Training.

BMP CL.2 Revision of Practices at Defense Logistics Agency (DLA)

DLA is an autonomous tenant of Fort Belvoir who is responsible for their own salt usage and management. Starting in the winter of 2020, prior to the completion of the Chloride TMDL, the MS4 program obtained information on salt application and quantity from DLA to determine baseline application rates. The analysis of information provided noted that the application frequency by DLA could be reduced as the agency was noted as applying Ice Melt Products immediately following another application date and when only trace or no snowfall occurred.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to revise current practices at DLA to adjust the frequency and application rates of Ice Melt Products that are being used within this Agency by October 31, 2023 was not yet achieved.

- Fort Belvoir will work with DLA to update their Ice Melt application practices.
- Current practices will be reviewed and discussed with facility managers during the targeted pre-winter season meeting/training planned for October 2022.

BMP CL.3 Update Base Operations Contractor Snow Plan

The Base Operations Contractor, Aleut, is responsible for removal of snow as well as anti- and de-icing procedures. A snow plan was developed as part of the contract with the Base Operations Contractor in November 2011. Policies, procedures, and equipment have been updated since this date, while the snow plan itself has not been updated since inception. The Chloride TMDL Action plan recommended that this Snow Plan be updated to better reflect the current standards and equipment used, as well as incorporate references to this Lower Accotink Creek Chloride TMDL Action Plan. It should also describe a clear strategy for when anti- or de-icing operations shall be conducted. A clear definition of conditions that are needed to trigger an anti- or de-icing event should be outlined within the Snow Plan.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal of updating the Snow Plan, developed in November 2011, that is a part of the contract with the Base Operations Contractor by October 31, 2023 was not yet achieved.

- Fort Belvoir will work with the Operations and Maintenance department to update the Base Operations Contractor Snow Plan in conjunction with the issuance of a Base Operations contract that is scheduled to be awarded in 2023.
- Current practices will be reviewed and discussed with facility managers during the targeted pre-winter season meeting/training planned for October 2022.

BMP CL.4 Revise Salt Brine Mixing Rates

The initial assessment in Chloride TMDL Action plan used historical salt application data to determine the average amount of treatment product used across the entirety of Fort Belvoir from 2017 to 2020. This data was used to determine the current salt treatment product application rate. The current mixing rate of brine at Fort Belvoir was determined to be approximately 8.34 lbs/gallon of Magnesium chloride. This was found to produce a brine which is much higher in salt percentage than necessary or recommended by SaMS.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to revise the current salt brine mixing practices at Fort Belvoir by October 31, 2023 was not yet achieved.

- The MS4 Program will work with the O&M department to determine an effective mixing rate and revise current practices in conjunction with the issuance of a Base Operations contract that is scheduled to be awarded in 2023.
- Current practices will be reviewed and discussed with facility managers during the targeted pre-winter season meeting/training planned for October 2022.

BMP CL.5 Establish a Calibration Process

There is currently no calibration protocols in place for salt application equipment used on Fort Belvoir. Establishing a calibration process could result in high potential cost savings as well as a more accurate picture of the amount of chloride containing products used at Fort Belvoir.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to establish a calibration protocol for salt equipment used on Fort Belvoir by October 31, 2023 was not yet achieved

- The MS4 Program will continue to work with O&M to establish and implement an equipment calibration process and get the requirements integrated into future winter maintenance contract specs in conjunction with the issuance of a Base Operations contract that is scheduled to be awarded in 2023.
- Current practices will be reviewed and discussed with facility managers during the targeted pre-winter season meeting/training planned for October 2022.

BMP CL.6 Targeted Training

The MS4 Program developed a Salt Management Training that is focused on salt applicators, supervisors, and decision-makers. The topics the training focuses on are: Plowing Practices, Equipment Calibration, Level of Service and Clearing Priorities, Anti-Icing Brine Mixing, Application Practices, Varying Application Rates, Use of Deicers at Different Temperatures, Salt Storage and Handling, Winter Maintenance Planning (Weather Forecasting/Surface Temperature Information) and Tracking and Reporting.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to update the training plan to include additional salt management training that is particularly focused towards salt applicators, supervisors, and decision-makers by October 31, 2023 was not yet achieved.

- The Training Plan was reviewed and needed updates were noted and were in progress during the drafting of this Annual Report. The plan is scheduled to be finalized in August 2022 and will be used during the 2022-2023 reporting period. Updates planned include:
    - Incorporation of targeted training for critical audiences as listed in the Chloride TMDL Action Plan Approved by VADEQ in February 2022.
- The training slides will be reviewed and updated to ensure all aspects of the targeted training program listed in section 5.6 of Chloride TMDL Action Plan are captured prior to the first pre-season training session.
- Salt Management Training was not provided during the 2021 – 2022 reporting period.

BMP CL.7 Annual Assessment and Reporting

The Chloride TMDL Action Plan was developed and submitted to VADEQ in early 2021. The plan assessed current practices to serve as the baseline analysis for the current program and will be utilizing the data as a comparison point moving forward. As a part of the iterative implementation process inherent to how the plan works, an annual assessment to determine the efficacy of the program as well as where improvements are necessary is completed. This self-assessment will continue to refine operations at Fort Belvoir and can be used to give both operators and supervisors an idea of how things currently run and common issues that arise. Through this annual evaluation, it will become clear where improvements can be made.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to complete an annual post-season assessment by no later than the end of the permit cycle, June 30 of each year was met.

- DPW Environmental used the self-assessment form to evaluate operations and determine areas for improvement on a scale from one (1) to four (4) with four being rated the best level. The assessment worksheet should be used as follows:
    - Identify categories of the worksheet where the facility rated below a level of 4.
    - For each of these categories, identify short-term and long-term actions that may be taken to improve in that category.
    - Define a proposed schedule of implementation for each action (BMP).
    - Define measurable goals for each action defined (e.g., ensure 100% of equipment is fitted with calibration units by year 5, ensure 100% of personnel are trained annually, etc.…)
- The annual operational assessment was completed on June 30, 2022 and found that out of the 11 categories Fort Belvoir scored a:
    - 4 on 1 category (use of liquids)
    - 3 on 6 categories (tracking usage; salt, mix, and liquid storage; summer storage; and plowing)
    - 2 on 3 categories (calibration, application rates, and use of non-chloride based products)
    - 1 on 1 category (training).
    - Table 17 below summarizes the categories, the scores, and the proposed action resulting from this operational assessment.
        - Focus for BMP implementation prioritizes lower rated categories (1s and 2s).

The measurable goal to post any updates or changes to the Chloride TMDL Action Plan on the Fort Belvoir webpage within 30 days of any updates was not applicable.

- No changes or updates have been made to the Plan therefore, no updates to the webpage have been made.
- The 2021-2022 operational assessment discussed above will be used to adjust the current plan during the 2022-2023 reporting period
- Fort Belvoir will ensure the public is aware of any changes made to the plan by posting the updated version to the Fort Belvoir Environmental Homepage.

The measurable goal to utilize the results of the annual assessment compared to the program goals to update the Chloride TMDL Action Plan to reflect new and achieved goals was met.

- Fort Belvoir completed the annual operational and application rate assessments as discussed above. No changes have been made to the Chloride TMDL Plan although they are planned for the 2022-2023 reporting period
- Table 17 below summarizes the results of the annual operational assessment and changes recommended to the action plan. Updates to the plan focus on lower rated categories first. Any updates or changes to the plan will be summarized within the 2022-2023 MS4 Annual Report.

Table 17: 2021-2022 Results from Annual Operational Assessment

Category	Rating	Defined Rating	Actions and Measurable Goals
Equipment Calibration	2	Equipment is calibrated at the start of each season but never checked OR Equipment is calibrated whenever the salt delivery system is serviced	Calibration requirements have been added to the new Baseops Contract **Measurable Goal:** Ensure that 100% of salt application equipment is calibrated on a regular schedule and proper calibration records are kept by the following winter season (October 2023)
Material Application Rates	2	The application rates are estimated AND The amount of material applied is adjusted to suit conditions	Meet with Baseops contractor and the Contract Representative to work on revised tracking sheet **Measurable Goal:** Review Baseops SOP for determining what to use and how they adjust to different situation by the following winter season (October 2023)
Tracking Material Usage	3	Material use is tracked by event and location AND Material use is reviewed to assess compliance with BMPs	Continue annual assessment of actual practices to identify areas for improvement
Use of Liquid Materials	4	Direct liquid application is used AND All solid salt is pre-wetted or pre-treated	Continue current practices for pretreatment and liquid usage
Use of Low or Non-Chloride based snow and Ice control Materials	2	Some low or non-chloride based materials have been tried	Explore possible options within the Baseops contract to implement and determine ability for long term use during annual assessment **Measurable Goal:** Implement use of alternatives and report changes/effectiveness in the annual report
Salt Storage	3	All salt is stored on impermeable pad and covered by a roof	Continue current salt storage practices and explore possibility of capturing and disposing of impacted soils

Category	Rating	Defined Rating	Actions and Measurable Goals
Sand/Salt Mix Storage	3	All salt is stored on impermeable pad and covered by a roof	Continue current salt storage practices and explore possibility of capturing and disposing of impacted soils
Liquid Storage	3	All liquid is stored in a tank or totes on impermeable pad AND Collision protection is provided	Secondary containment is provided but does not seem to provide sufficient volume. Review plans with Baseops Contractor and the Contract Representative **Measurable goal:** Implement adequate secondary containment for 100% of liquid storage areas by the following winter season (October 2023)
Summer Storage	3	All material is securely stored in tanks or on an impermeable pad covered with a roof.	Explore the ability and cost associated with removing all materials after the winter season
Plowing	3	Plowing is used to remove accumulated snow before it becomes a hazard AND Plowing is usually planned to allow applied materials time to work	Explore the feasibility of stocking piling plowed snow to avoid meltwater
Salt Management Training	1	No salt management training is carried out	Develop and implement the targeted training program under BMP CL.6 before the next winter season **Measurable goal:** Update the training plan and perform targeted training for 100% of key personnel from Baseops, DLA, and NGA annually

The measurable goal to use reported data to calculate the application rate for each product to see if goals were met or if additional BMPs are required to be implemented was met.

- Application data was tracked and submitted to DPW from three (3) key applicators on Fort Belvoir including Aleut, DLA, and NGA. All three are responsible for a portion of salt application within the Lower Accotink Creek watershed.
- Table 18 summarizes the target and actual application rates for the 2021-2022 winter season

Table 18: 2021-2022 Annual Chloride Application Rates

Treatment Product	Target Application Rate	Application in Lower Accotink Creek	% Chloride	Average Number of Events	Actual Application Rate
DLA: Total Area treated = 29.54 acres					
Ice Melt	325 lbs/lane mile	180,000 lbs	98%	4	**1,492.89**

Treatment Product	Target Application Rate	Application in Lower Accotink Creek	% Chloride	Average Number of Events	Actual Application Rate
NGA: Total Area treated = 373.29 acres Lots and Roads = 352.70 Walkways = 20.39					
80/20 Magnesium Chloride (MgCl) and Sand Mixture	325 lbs/lane mile	114,000 lbs	80%	6	**43.09**
MgCl Brine	50 gal/lane mile	2,200 gallons	100%	2	**37.24**
Ice Melt	325 lbs/lane mile	14,000 lbs	98%	3	**224.30**
Aleut: Total Area treated = 2683.8 acres Area within Lower Accotink Creek = 107.92 acres					
80/20 Magnesium Chloride (MgCl) and Sand Mixture	325 lbs/lane mile	52,600 lbs	80%	4	**97.5**
MgCl Brine	50 gal/lane mile	611 gallons	100%	3	**1.89**
Overall Application within the Lower Accotink Total Area Treated = 510.55 acres					
80/20 Magnesium Chloride (MgCl) and Sand Mixture	325 lbs/lane mile	166,600 lbs	80%	5	**52.21**
MgCl Brine	50 gal/lane mile	2,811 gallons	100%	2.5	**2.20**
Ice Melt	325 lbs/lane mile	194,000 lbs	98%	3.5	**1087.92**

- Application rates are calculated and shown for each responsible party since each has different processes in place and can be targeted individually when developing BMPs.
- **DLA:** As previously assessed, application rates in areas completed by DLA continue to be above target levels for ice melt usage.
- **Aleut:** Application rates in areas completed by Aleut was found to be below target rates for brine and salt/sand mix.
    - Because the amount of salt used by Aleut is tracked on an installation wide basis and the Lower Accotink Creek only accounts for a portion of the area treated the application rates for this area can be inferred based on a ratio of 4.79% assuming the application is consistent throughout the installation.
- **NGA:** Application rates in areas completed by NGA was found to be below target rates for brine, ice melt, and for the salt/sand mix.
    - Based on tracking of usage completed during the 2021-2022 reporting period it was noted that NGA is treating a significantly larger area than originally captured in the plan. Now that new data is available on the actual acres treated for winter maintenance, the TMDL Action Plan should be updated to reflect the change.

BMP Assessment: BMPs CL.1 through CL.7 identified in the Program Plan and Chloride TMDL action plan have not been fully implemented and therefore efficacy cannot be fully determined. Fort Belvoir will continue implementation of the current plan using annual assessments and the iterative process to identify and implement improvements.

d. Sediment TMDL for the Lower Accotink Creek

The Lower Accotink Creek Sediment TMDL was approved by the State Water Control Board (SWCB) on April 12, 2018 and approved by the Environmental Protection Agency (EPA) on May 23, 2018. The Lower Accotink Creek Sediment TMDL Action Plan was completed as per Part II.B of the 2018- 2023 General Permit, which requires that the permittee shall develop and initiate implementation of action plans to meet the conditions of Part II.B.3 - 7 as applicable no later than 30 months after the permit effective date . This Lower Accotink Creek Sediment TMDL Action Plan allowed for a public comment period by being posted on the Fort Belvoir Home Page under Environmental Documents for Stormwater in January 2021. A Notice of Availability for the document was:

- Posted on the Fort Belvoir Environmental Facebook page on January 8, 2021
- Posted on the Fort Belvoir Home Page on January 8, 2021
- Published in the Fort Belvoir newspaper, The Belvoir Eagle on January 14, 2021

Fort Belvoir provided for the public comment period to be open until February 15, 2021 allowing for at least 15 days for public comment as required under Part II.B.7. Fort Belvoir DPW did not receive any comments during this period therefore, the public comment section was the only section updated prior to submittal of the Final Lower Accotink Creek Sediment TMDL Action Plan to VADEQ on February 23, 2021.

The overall goal of this Action Plan is to provide the means and methods and a general level of effort that will be needed for Fort Belvoir to meet the 55% Lower Accotink Creek TMDL reduction targets in the MS4 permit for sediment developed by the VADEQ. A Waste Load Allocation (WLA) of 235 tons/year as well as a Baseline Load of 519 tons/year was already given by VADEQ through the Volume II Sediment TMDLs for the Lower Accotink Creek Watershed. However, it was noted that regulated areas within the MS4 service area have significantly changed since publication of this document. Therefore the baseline load for Fort Belvoir was re-evaluated as the removal of areas within the MS4 Service Area due to additional VPDES Permits has occurred. Based off this re-evaluation, an adjusted Baseline Load of 315.98 tons/year was calculated, with a new adjusted target reduction of 80.98 tons/year (or 161,960 pounds/year) of sediment to be achieved.

VADEQ approved the Sediment TMDL plan as is, with the adjusted targeted reduction values, in a letter dated October 15, 2021 but noted:

- The re-application process for the Ft. Belvoir Stormwater Industrial Permit (VA0092771) had commenced.
- When this permit is reissued, changes to the acreage in the MS4 and stormwater industrial areas will likely occur.
- Ft. Belvoir should submit a revised Sediment MS4 TMDL action plan to DEQ reflecting the updated MS4 area and the sediment removal calculations for stormwater management facilities, stream restorations, street sweeping, and land use conversions 180 days after reissuance of the Permit No. VA0092771

Fort Belvoir considered all projects completed since the 2009 progress run for credits as described in VADEQ Guidance Memo No. 20-2003 which replaced Guidance Memo No. 15-2005 as guidance for meeting local TMDL waste load allocations for sediment. The strategies listed in the plan as available to meet the required reductions included Land Use changes, Urban Structural BMPs, Urban Stream Restoration, Street Sweeping, and Storm Drain Cleaning.

BMP TSS.1 Sediment TMDL Action Plan Implementation and Reporting

The Sediment TMDL Action Plan was developed in early 2021 and approved by VADEQ in October 2021. The plan assessed the current MS4 area and practices in place to serve as the baseline analysis for the current program and will be utilizing the data as a comparison point moving forward. The achieved reductions from each implemented BMP was compared to both the adjusted load reduction (80.98 tons/year) and original load reduction (519 tons/yr) to determine if goals for the WLA were met. Below is a summary of the actual progress made towards achieving the required reductions and a status report on the identified measurable goals necessary to meet the reduction requirements.

Table 19: Actual Lower Accotink Creek Sediment TMDL Reductions Achieved 2021-2022

Pollutants Of Concern	BMP	Required Reduction (lbs. /yr.)	Reductions Achieved (lbs. /yr.)	% Of Required Reduction *(Original)*	% Of Required Reduction *(Adjusted)*
Total Suspended Solids	Urban Structural BMP's	*Original:* ***1,038,000*** *Adjusted:* ***161,960***	94,301.32	9.08%	58.22%
	Stream Restoration		5,113.94	0.49%	3.16%
	Street Sweeping		14,253.56	1.37%	8.80%
	Storm Drain Cleaning		0	0%	0%
	Land Use Change		15,742.23	1.51%	9.72%
TSS Reduction Achieved vs. WLA			***162,717.16***	***12.45%***	***79.90%***

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to inspect and maintain the 49 Urban Structural BMPs located within the Lower Accotink Creek Watershed and address any deficiencies noted during inspections within one year was partially met.

- The 49 SMFs located within the Lower Accotink were evaluated during this reporting cycle
    - Three (3) of the facilities were found to be owned and operated by VDOT and therefore were removed from the list of urban structural BMPs available for credit resulting in a loss of 8,668,78 lb./yr of TSS reductions
    - Three (3) facilities were found to be temporary facilities associated with construction projects and will no longer be in place. Therefore, they were removed from the list of urban structural BMPs available for credit resulting in a loss of 24,637.33 lb./yr of TSS reductions
- 43 of the original SMFs located within the Lower Accotink remain in place and belong to Fort Belvoir
    - 15 were inspected in May 2022 and inspections noted that no significant maintenance was required. Minor maintenance suggested replacement of mulch in areas and removal of vegetation was required.
    - An additional 8 were inspected in July and August 2022, after the reporting period, but no significant maintenance was required.
    - The remaining 20 were not inspected, therefore maintenance requirements are unknown.
    - If significant maintenance had been required, the deficiencies will need to be addressed by June 30, 2023 or credits for the facilities would have been lost.

- An additional 11 SMFs came online, associated with the NMUSA project:
    - Nine (9) SMFs fell into the BMP#12 - Urban Infiltration Practices – with sand/veg no underdrain category which has a 95% sediment removal efficiency.
        - The nine (9) new SMFs treat a total of 22.07 acres and achieve a combined reduction of 17,247.87 lb./yr
    - Two (2) of these facilities did not have an equivalent Chesbay Program BMP # and therefore no additional credits were acquired
- Fort Belvoir will ensure that all 54 existing facilities, new and old belonging to Fort Belvoir, will be inspected during the 2022-2023 reporting period to ensure credits can be maintained.
- Reductions achieved from new and old SMFs based on findings from the 2021-2022 reporting cycle are summarized in Table 20 below

Table 20: Credits from SMFs within the Lower Accotink Creek Watershed

BMP Name/Type	Year Completed	Chesbay Program BMP #	Sediment Removal Efficiency	Acres Treated	TSS Reduction (lb./yr)
49 Original SMFs considered in the plan	2009-2020	Various	Various	312.48	110,359.56
VDOT SMFs (VAFY17-587, 588, and 589)	N/A	Various	Various	-18.07	-8,668.78
Removed Facilities (VAFY17-316, 577, and 624)	N/A	Various	Various	-52.44	-24,637.33
Nine (9) x Infiltration Galleries at NMUSA	2021	12	95%	22.07	17,247.87
Total Reductions				**264.04**	**94,301.32**

The measurable goal to inspect and verify functionality of the two (2) stream restoration projects considered in the plan once every 5 years and address any deficiencies noted during inspections within one year was met.

- The two (2) stream restoration projects were completed between 2011 and 2019
    - Verification of long-term performance for the North Area project was completed by Fort Belvoir in 2019 and determined that the project remains effective and can maintain credits for another 5 years.
- Reductions achieved from the Stream Restoration Projects are summarized in Table 21 below

Table 21: Credits from Stream Restoration Projects within the Lower Accotink Creek Watershed

BMP Name/Type	Year Completed	Year Verified	Removal Rates (lbs/ft)	Linear Feet Restored	TSS Reduction (lb./yr)
North Area Natural Channel Design	2011	2019	15.13	128	1,936.64
NMUSA Natural Channel Design	2019	**Due 2024**	15.13	210	3,177.3
Total Reductions				**338**	**5,113.94**

The measurable goal to perform and document the street sweeping program as specified under the O&M contract was met.

- Sweeping was to be completed monthly based on Technical Exhibit SA2 of the Base Operations Contract that specifies the locations to be swept.
    - The contract specifies 2686 acres of land that should be swept monthly of which 304.22 acres falls within the regulated MS4 area in the Lower Accotink Creek Watershed
- Based on reported data to DPW, street sweeping practices for the 2021-2022 reporting period falls under scenario SCP-5 as listed in Guidance Memo No. 20-2003 which would achieve a removal rate of 4% for TSS.
- Table 22 below shows the actual reductions achieved during the 2021-2022 reporting period.

Table 22: Annual 2021-2022 Street Sweeping Within Lower Accotink Creek

MS4 Area Sweeping – Lower Accotink Creek				
Street Sweeping Practice #	**TSS Removal Rate**	**Sq. Yd.**	**Acres**	**TSS Reduction**
SCP-5 Regenerative sweeper 6+ pass/yr	4 %	1,472,447	304.22	14,253.56
			Total Reductions in lbs/yr	**14,253.56**

The measurable goal to perform and document the Storm Drain Cleaning as specified under the O&M contract was not met.

- Sediment is to be removed from the storm drain systems on Fort Belvoir Property by the Base Operations Contractor. Collected sediment is taken to two (2) dumpsters and then are allowed to dry prior to sampling and disposal. At the disposal time, the dry weight is recorded in a waste disposal manifest.
- The dry weight of material collected is inclusive of the entirety of Fort Belvoir therefore, to calculate reductions within the Lower Accotink Creek Watershed a ratio to the total MS4 area is used. The Lower Accotink Creek Watershed has a total of 1,429.5 acres within the MS4 Service Area, making up for 44.64% of the total MS4 Service Area.
- During the 2021 – 2022 reporting period the Base Operations contractor did not dispose of any collected debris from storm drain cleaning. Therefore, no data on the dry weight of materials collected was available and Fort Belvoir assumes no reductions were achieved using this strategy.

BMP TSS.2 Education and Training

The goal of Fort Belvoir's Education and Outreach and Training Programs is to inform civilian and military personnel, residents and contractors about the steps that can be taken to reduce stormwater pollution to the maximum extent practicable (MEP). As such, Sediment is listed as one of the high priority stormwater issues discussed under MCM 1 and is one of the most common topics covered in the Training program discussed under MCM6.

During the reporting period from July 1, 2021 - June 30, 2022 the following goals are set forth in the Program Plan,

The measurable goal to publish one article and/or stormwater newsletter annually that discusses the sediment transport and water quality issue, proper erosion and sediment control (ESC) measures, reporting information and steps that can be taken to reduce sediment sources was met.

- The Spring Stormwater Newsletter covered the requirements and importance of the dig permit process in managing stormwater pollution especially in terms of land disturbance.

The measurable goal to provide specialized training focused on proper construction site sediment and erosion control, importance of Stormwater BMPs and storm sewer maintenance, implementation, and benefits of urban stream restoration with target audiences being construction projects, Engineering Division and the Operations and Maintenance Division, including the Base Operations Contractor was partially met.

- The Training Plan identifies six (6) levels of training at different magnitudes of content with Level 1 being the most extensive. Erosion & Sediment Control Basics is covered in Training Levels 1, 2, 3, 5, and 6
- All construction permitted under a Construction General Permit (CGP) must have a RLD and all RLD Personnel and other pertinent site employees receive Level 5 training to address erosion and sediment control concerns before construction begins on-site. A total of 46 people associated with 5 large construction projects received level 5 – preconstruction training during the reporting cycle.
- Fort Belvoir DPW employees are usually trained using Level 3 & 4 training once a year utilizing the DPW All Hands meeting forum. Due to COVID-19 restrictions, there was no DPW All Hands training opportunity during this reporting period; no DPW personnel were trained during this period.

BMP Assessment: BMPs TSS.1 and TSS.2 identified in the Program Plan and Sediment TMDL action plan have not been fully effective in achieving the goals of the TMDL as only approximately 79% of the adjusted load reduction required was achieved. Fort Belvoir recognizes that ensuring that street sweeping is done at least frequently enough to meet requirements of SCP-4 is the fastest and easiest way to meet the required load reductions and will work to ensure this occurs during the next reporting period.

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 evaluated individually in Sections 2, 3, and 4 above. Table 23 shows a summary of changes made to the Program Plan throughout the 2021-2022 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 2021-2022 reporting period or recommended for the 2022-2023 reporting period.

Implementation of the MS4 Program continues to evolve and be refined as is the intent of the iterative process. Overall, changes made to the Program Plan during this reporting period reflect refinements to clarity, adaptations that were prompted by external changes, such as the use of new communication avenues or addition of TMDL plans, or lessons learned during implementation that have prompted adjustments. As such, MS4 Program implementation remains adaptable and effective as Fort Belvoir strives to reduce pollutant loading and protect water quality to the maximum extent practicable.

Table 23: Changes to the Program Plan as of June 30, 2022

DATE	CHANGE	LOCATION
29 July 2021	Deleted "Public Schools" and added Permit #VA0088587 – Fairfax County "Public Schools" no longer holds their own permit and according to VADEQ they have been rolled into the general Fairfax County permit. Narrative and Permit # were updated for accuracy.	Section 3.5
1 Sept 2021	Added Chloride Total Maximum Daily Load (TMDL) Action Plan, Lower Accotink Creek, dated May 1, 2021	Section 5.3
1 Sept 2021	Added *Sediment Total Maximum Daily Load (TMDL) Action Plan, Lower Accotink Creek*, dated February 23, 2021	Section 5.3
1 Sept 2021	Added that Due to COVID restrictions or other restrictive circumstances, distance learning for pre-con meetings may be used and specified that the project team will need to provide a participation sheet where the personnel certifies that they received, read, and understand the training material provided.	Section 8.4
18 Oct 2021	Updated permit references to match the 2018 MS4 general permit and added list of requirements for the Program Plan as listed in Part.I.C.	Section 1
18 Oct 2021	Updated Population and support service numbers based on the FY 2020 ASIP Data Stat Card Reviewed 2020 Census available data (not yet released) and added statement about re-evaluation once data on urbanized areas have been released to the public. ---**Note: Once released all maps (Figures 1, 2, and 3) should be updated, TMDL plans will need to be reviewed and updated as well.**	Section 2
19 Oct 2021	Section 4.13 - Updated to state that there is no current policy and that DPW is working with Command on a method to get this and other ordinances in place. Section 4.14 – References and quotes were updated to match the 2018 policy letter and section was updated to state that no current policy is in place Section 4.15 – References and quotes were updated to match the 2018 policy letter and section was updated to state that no current policy is in place	Sections 4.13, 4.14, 4.15

DATE	CHANGE	LOCATION
20 Oct 2021	Updated contract support responsibilities and funding status for BASEOPS and Environmental Support for the 2021-2022 permit cycle And updated responsibilities in Table 1 to distinguish between contracts	Section 5.1
20 Oct 2021	Corrected all plan dates based on most recent revisions	Section 5.3
21 Oct 2021	Updated 305/303 impaired waters information based on the VADEQ Final 2020 305(b)/303(d) Water Quality Assessment Integrated Report approved by EPA on December 9, 2020 in Table 2	Section 7
21 Oct 2021	BMP PCB.2 - Updated to match the BMP listed in the 2021 Plan and include following the sampling plan and monitoring remediation efforts by the restoration group. Updated reporting to include comparison of sampling results to WCQ and a narrative of the status of historical PCB sites Updated to include responsible parties	Section 9.3
22 Oct 2021	Updated permit and plan references and definitions for permit cycle and privately owned	Section 8
22 Oct 2021	Updated the Education and Outreach Plan (Contained within the program Plan) to reflect current high-priority issues and TMDLs as well as usable strategies.	Section 8.1
22 Oct 2021	Updated Table 5 to be a “Tentative” instead of proposed schedule, to reflect Seasons instead of Months, to provide a list of educational opportunities and topics instead of just a strategy	Section 8.1
22 Oct 2021	BMP 1.1 - Updated to clarify that at least one education and outreach strategy will be used each quarter providing topical information for that season (Fall, Winter, Spring, Summer) and added detail on the responsibilities of DPW ED	Section 8.1
22 Oct 2021	Added Permit requirements and references to conditions in Part I.E.2.b, c, and e	Section 8.2
22 Oct 2021	Added details on what types of documents are posted on the website for public access	Section 8.2
22 Oct 2021	Updated links to emails, website, and Facebook, updated phone numbers	Section 8.2
22 Oct 2021	Detailed timeline for responses by MS4 PM to any comments or complaints received via the website, email, phone, or Facebook	Section 8.2
22 Oct 2021	Updated Table 6 to use Seasons as the time periods instead of specifying a particular month for implementation	Section 8.2
22 Oct 2021	BMP 2.1 - Updated to note that Program Plan will be posted to website within 30 days of any updates and to state that the stormwater pollution reporting button will be maintained since it was already set up in 2020 and added detail on the responsibilities of DPW ED	Section 8.2
22 Oct 2021	BMP 2.2 - Updated to add detail on the responsibilities of DPW ED	Section 8.2
25 Oct 2021	Added requirements for the IDDE Program and permit references. And incorporated the 2020 IDDE Plan by reference into the program Plan.	Section 8.3
25 Oct 2021	BMP 3.1 - Added information on the development of the MS4 Map and Information table and submittal to VADEQ	Section 8.3
25 Oct 2021	BMP 3.1 - Updated measurable goal to remove the development and submittal portion as it was already completed. Retitled “Maintain an Accurate MS4 Map and Information Table”	Section 8.3

DATE	CHANGE	LOCATION
25 Oct 2021	BMP 3.2 - Updated to detail the status (as of Oct 2021) and lack of policy memorandum prohibiting unauthorized discharges	Section 8.3
25 Oct 2021	BMP 3.2 - Updated to have a measurable goal to get a new policy memo signed and approved by the garrison commander. Outlined responsibilities	Section 8.3
25 Oct 2021	Updated references to the 2020 IDDE plan (most current)	Section 8.3
25 Oct 2021	BMP 3.3 - Updated to clearly define annual reporting requirements and identify responsible parties	Section 8.3
25 Oct 2021	Updated section to detail how the MS4 Construction Site Stormwater Runoff Control Program is managed/run and to designate that Fort Belvoir falls under category listed in Part I.E.4.a.(4)(i.e. federal entity with no standards and specs).	Section 8.4
25 Oct 2021	Updated process for construction site plan approval and commencement based on the 30 April 2021 Bulletin #1 requirements	Section 8.4
25 Oct 2021	BMP 4.1 - Updated to show when each Bulletin is distributed, Clarify annual reporting requirements, and detail responsibilities.	Section 8.4
25 Oct 2021	BMP 4.2 - Updated the weather station to be used for determining rainfall (old one is no longer active)	Section 8.4
25 Oct 2021	BMP 4.2 - Added Permit references to the required inspection schedule	Section 8.4
25 Oct 2021	BMP 4.2 - Defined responsible parties	Section 8.4
26 Oct 2021	BMP 4.3 - Updated process for construction site plan approval and commencement based on the 30 April 2021 Bulletin #1 requirements	Section 8.4
26 Oct 2021	Updated process for SMF inspections post construction based on the 2019 Inspection and Maintenance plan	Section 8.5
26 Oct 2021	Defined the distinguishment between what are considered public vs private SMFs and the Inspection schedule	Section 8.5
26 Oct 2021	Defined and referenced maintenance agreements, different types, and enforcement procedure	Section 8.5
26 Oct 2021	Added permit requirements and references for SMF data table. Added in details for efforts completed during the 2018-2019 reporting period	Section 8.5
26 Oct 2021	BMP 5.1 and 5.2 - Switched positions such that they appear in the same order as the permit requirements	Section 8.5
26 Oct 2021	BMP 5.1 - Updated to reference 2019 SMF inspection and maintenance plan; Added reporting of inspection and maintenance by October 1 to BMP warehouse, added need to coordinate with RCI/tenants for maintenance of private facilities. Defined responsible parties	Section 8.5
26 Oct 2021	BMP 5.2 – Defined responsible parties	Section 8.5
27 Oct 2021	Added information on the Phase II Chesbay TMDL Action Plan and added table 12 showing the L2 goals being achieved both based on the 2009 and 2017 Land use areas	Section 9.1
27 Oct 2021	BMP CHESBAY.1 – Updated to reflect that the TMDL Plan (Phase II) has already been completed, submitted to VADEQ, and approved.	Section 9.1
27 Oct 2021	BMP CHESBAY.1 - Updated to have the measurable goals as listed in the Phase II TMDL Plan for BMP Verification and maintenance of existing credits	Section 9.1
27 Oct 2021	BMP CHESBAY.1 - Updated to include list of information to be reporting for new stream restorations and annual street sweeping as dictated in the plan	Section 9.1

DATE	CHANGE	LOCATION
27 Oct 2021	BMP CHESBAY.1 – Updated to include Responsible parties	Section 9.1
27 Oct 2021	Updated section to reflect 2020 and 2021 updates to the plan	Section 9.3
27 Oct 2021	BMP PCB.1 - Updated to include where brochures should be posted and updated reporting to include "locations, events, and/or entities to which educational materials are posted or distributed"	Section 9.3
27 Oct 2021	BMP PCB.MP13 - Added PCB.MP13 Maintain Vegetative Cap at Historical PCB Site MP-13 to match 2021 PCB TMDL Action plan.	Section 9.3
27 Oct 2021	Updated section to reflect 2020 review and updates to the plan	Section 9.2
27 Oct 2021	BAC.1 - Updated to reflect goals and reporting as designated in the 2020 TMDL Action and added details on responsible parties	Section 9.2
27 Oct 2021	BAC.2 - Added BAC.2 which was designated in the 2020 TMDL Plan and detailed goals, reporting, and responsible parties	Section 9.2
27 Oct 2021	BAC.3 - Old BAC.2 became BAC.3 to match the 2020 TMDL Plan. Updated/ detailed goals, reporting, and responsible parties	Section 9.2
28 Oct 2021	Added Section on Sediment TMDL and associated BMPs TSS.1 and TSS.2	Section 9.4
28 Oct 2021	Added Section on Chloride TMDL and associated BMPs CL.1 Through CL.7	Section 9.5
29 Oct 2021	Added permit references and requirements for the P2/good housekeeping program	Section 8.6
29 Oct 2021	Added layman's description of O&M contract attachments #4, 5, and 6: • Inspection and maintenance of structural stormwater controls such as hydrodynamic separation units (swirl concentrators), catch basins, stormwater management facilities (SMFs), and oil/water separators. • Storm sewer cleaning to remove build-up of sediment and debris that can block water flow. • Street sweeping to remove large and small debris and pollutants that collect on city streets as well as snow removal to treat parking lots, roadways, and sidewalks, or other paved surfaces.	Section 8.6
29 Oct 2021	BMP 6.1 - Added permit requirements for written operating procedures	Section 8.6
29 Oct 2021	BMP 6.1 - Added that BMP Fact sheets are available online	Section 8.6
29 Oct 2021	BMP 6.1 goals was updated to include: "New BMP Fact sheets will be posted to website and distributed within 30 days." And define responsible parties.	Section 8.6
29 Oct 2021	BMP 6.2 - Corrected permit references to Part I.E.6	Section 8.6
29 Oct 2021	BMP 6.2 - Updated process for annual evaluations of HPF	Section 8.6
29 Oct 2021	BMP 6.2 - Updated Table 8 with 2020-2021 HPF results and status of SWPPP Development	Section 8.6
29 Oct 2021	BMP 6.2 - Added SWPPP modification requirements to measurable goals and detailed responsible parties	Section 8.6

a. Detailed Plan Revisions and Justifications

Plan Purpose and Revisions

Permit references were updated to match the 2018 MS4 General Permit, and requirements for the Program Plan as listed in Part.I.C. were added.

Facility Background and MS4 Regulated Service Area

Population and support service numbers were updated based on the FY 2020 Army Stationing and Installation Plan (ASIP) Data Stat Card. Fort Belvoir noted that when 2020 Census data is available the permit regulated areas will be re-evaluated, and plans updated, as necessary.

Properties Not Covered under the Fort Belvoir MS4 Permit

For accuracy, the text was changed to indicate that the 20-acre property occupied by Fort Belvoir Elementary School is now covered under the Fairfax County MS4 Permit, as Fairfax County Public Schools no longer holds an MS4 permit.

Legal Authorities

Fort Belvoir Policy Memorandum #28, Environmental Policy

Fort Belvoir updated to state that this policy is not currently in place, describes why, and indicates the path forward.

Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/ Unauthorized Discharges into the MS4 and Waterways

Fort Belvoir updated to state that this policy is not currently in place, describes why, and indicates the path forward. References and quotes were updated to match the 2018 policy letter.

Fort Belvoir Policy Memorandum #73, Stormwater Pollution Prevention Plan Requirements

Fort Belvoir updated to state that this policy is not currently in place, describes why, and indicates the path forward. References and quotes were updated to match the 2018 policy letter.

Program Administration

Organizational Structure (Permit Part I.C.1.a)

Contract support responsibilities and funding status for BASEOPS and Environmental Support for the 2021-2022 reporting period were updated, as needed, in the narrative and on Table 1.

Documents Incorporated by Reference (Permit Part I, C.1.d.)

The Final Chloride TMDL Action Plan, Lower Accotink Creek, dated May 1, 2021, and the Final Sediment TMDL Action Plan, Lower Accotink Creek, date February 23, 2021, were added to the list of documents that are incorporated by reference into the MS4 Program Plan. All plan dates were updated based on most recent revisions.

Impaired Waters

Fort Belvoir updated 305/303 impaired waters information in Table 2: *Impaired Surface Waters Receiving Discharge from USAG Fort Belvoir* based on the VADEQ Final 2020 305(b)/303(d) Water Quality Assessment Integrated Report approved by EPA on December 9, 2020.

Minimum Control Measures

Permit and plan references and definitions for permit cycle and privately owned were updated throughout this section.

MCM#1: Public Education and Outreach on Stormwater Impacts

Several changes were made to MCM#1 to include adding current high priority stormwater issues and TMDLs and reflecting changes in how and when various audiences are reached. As such, the additional high priority stormwater issues and TMDLs were added to Table 4: *High Priority Stormwater Issues Rationale* and Table 5: *Public Education and Outreach Program Tentative Schedule.* Outreach strategies were updated to include additionally developed avenues of communication with various audiences, including Housing Residents, Contractor Personnel, and Military Personnel.

Significant changes were made to Table 5: *Public Education and Outreach Program Tentative Schedule,* as it is now entitled a tentative schedule instead of a proposed schedule. In lieu of prescribing specific strategies by month by audience, Table 5 now reflects a list, by season, of all currently developed Public Education and Outreach Strategies/ Opportunities that can potentially be used. This shift allows DPW Environmental to capitalize on the multiple education and outreach opportunities developed throughout the program history and to adapt to changes in methods of communication to best reach the audience.

BMP 1.1 Implement a Public Education and Outreach Plan

The measurable goal previously included utilizing two or more of the public education and outreach strategies to communicate high priority stormwater issues to the public. The measurable goal has been revised to include this requirement as well as utilizing at least one strategy each season (quarterly) to provide the public topical information on the impacts their activities can have on stormwater runoff and measures or actions they can take to minimize that impact. Detail was added to the responsibilities of DPW ED.

MCM#2: Public Involvement/ Participation

Changes made to MCM#2 include:

- Adding Permit requirements and references to conditions in Part I.E.2.b, c, and e
- Detailing the types of documents posted on the website for public access as well as how comment periods for the MS4 Program and TMDL Action Plans are announced and how comments are addressed and reported
- Updating links to emails, website, and Facebook, and updating phone numbers
- Providing information on how and when MS4 PM will provide a response report back to individuals who have reported via electronic means on an incident that may be a potential illicit discharge to match goals in the illicit discharge program
- Updating Table 6: *Potential Public Involvement Opportunities* to parallel the change made to Table 5 such that it is now broken out by season or period in lieu of monthly prescribed activities.

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

The measurable goal was revised to state that the MS4 Program Plan will be posted within 30 days of updates. Review and updates to the Program Plan remain at a minimum once per reporting period, as was previously set.

Maintenance of the reporting/ complaint form button was also added as a measurable goal. Previously the goal was to create and implement this reporting method, which was accomplished in 2020.

BMP 2.2 Public Involvement Activities

No changes have been made to this BMP's methods or evaluation criteria. Specific responsibilities were added to the Responsible Party section.

MCM#3: Illicit Discharge Detection and Elimination

MCM#3 was updated to include permit requirements for the IDDE Program and corresponding permit references. The 2020 IDDE Plan was also incorporated into the Program Plan by reference.

BMP 3.1 Maintain an Accurate MS4 Map and Information Table

BMP 3.1 was revised to reflect that the development of mapping data for all MS4 outfalls and SMF was completed on December 30, 2018, and an information table and MS4 map, as a GIS-compatible shapefile, were developed and submitted to the VADEQ on June 24, 2019. The measurable goal for this BMP, therefore, has been updated to reflect that the information table and MS4 map have been developed and submitted, and now will be maintained with changes from the reporting period. The title of the BMP also reflects this change. The measurable goal was also updated to include the portion of the information table with new stormwater structure information as an appendix to the annual report. Updates to specific responsibilities were made in the Responsible Party section.

BMP 3.2 Prohibit Unauthorized Non-Stormwater Discharges into the MS4

BMP 3.2 was updated to reflect the status as of October 2021 regarding Fort Belvoir Policy Memorandum #71, *Prohibition of Illicit/ Unauthorized Discharges into the MS4 and Waterways*. The measurable goal was changed to get a new policy memorandum approved and signed by the Garrison Commander. Then, once in place, the goal is to review, revise, and update the policy memorandum as needed to maintain the policy in place whenever there is a change in command. The annual reporting goal was updated to provide narrative on any changes to the memorandum and its status as active or not. Updates to specific responsibilities were made in the Responsible Party section.

BMP 3.3 Maintain and Implement U.S. Army, Fort Belvoir, Virginia Illicit Discharge Detection and Elimination (IDDE) Plan

Updates to BMP 3.3 include referencing the December 2020 IDDE Plan, which is the current plan, as well as clearly defining annual reporting requirements. Updates were made to clearly identify responsible parties and corresponding responsibilities.

MCM#4: Construction Site Stormwater Runoff Control

Changes to MCM#4 provide detailed information on how the MS4 Construction Site Stormwater Runoff Control Program is managed, including all updates to the construction site plan approval and commencement process. Changes to this section also designate that Fort Belvoir is under the category listed in Part I.E.4.a.(4)(i.e. federal entity with no standards and specs). Provisions for the use of distance learning for pre-con meetings due to COVID restrictions or other restrictive circumstances were also included in this revision.

BMP 4.1 Communicate the Requirements of the MS4 Program

BMP 4.1 was updated to describe when each technical bulletin is distributed, to clarify annual reporting requirements, and to detail responsibilities.

BMP 4.2 Erosion and Sediment Control (ESC) Site Inspections

Updates to BMP 4.2 include:

- Updating the weather station to be used for determining rainfall (old one is no longer active)
- Adding Permit references to the required inspection schedule
- Defining responsibilities of the Responsible Party

BMP 4.3 Progressive Compliance and Enforcement Strategy

BMP 4.3 was updated to include permit references as well as compliance and enforcement actions to be taken when required permits and approvals are not received prior to construction commencement.

MCM#5: Post-Construction Runoff Control

Revisions to MCM#5 include:

- Updates to the process for SMF inspections post construction based on the 2019 Inspection and Maintenance plan
- Providing a description to distinguish between what are considered public vs private SMFs as well as the inspection schedule
- Defining and referencing the different types of maintenance agreements and describing enforcement procedures
- Adding permit requirements and references for the SMF information table, including noting that Fort Belvoir developed mapping data for all MS4 outfalls and SMFs during the 2018-2019 reporting cycle and now maintains the data, as necessary.

BMP 5.1 Conduct Annual Inspections and Maintenance of Storm Water Management Facilities

BMPs 5.1 and 5.2 were switched in the Program Plan such that they appear in the same order as the permit requirements. BMP 5.1 was updated to reference the 2019 SMF Inspection and Maintenance Plan. Two measurable goals were added: (1) Reporting of inspection and maintenance to the BMP warehouse by October 1; and (2) Coordination with tenant commands/ RCI to ensure maintenance is completed for privately owned SMFs noted as deficient. Updates were made to clearly identify responsible parties and corresponding responsibilities.

BMP 5.2 Maintain an Electronic Database or Spreadsheet

As noted above, BMPs 5.1 and 5.2 were switched such that they appear in the same order as the permit requirements. Changes to BMP 5.2 include clearly identifying responsible parties and corresponding responsibilities.

MCM#6: Pollution Prevention/ Good Housekeeping for Municipal Operations

Updates to MCM#6 include the addition of permit references and requirements for the P2/Good Housekeeping Program as well as a description of activities covered by the O&M contract.

BMP 6.1 Written Procedures for Operations and Maintenance Activities

Permit requirements for written operating procedures were added, and availability of BMP Fact Sheets online was noted. The measurable goal was updated to state that new BMP Fact sheets will be posted to website and distributed within 30 days. Updates were made to clearly identify responsible parties and corresponding responsibilities.

BMP 6.2 Develop and Implement Stormwater Pollution Prevention Plans (SWPPP)

In addition to correcting permit references to Part I.E.6, changes to this section include:

- Updates to the process for annual evaluations of HPF
- Updates to Table 8 with 2020-2021 HPF results and status of SWPPP Development
- Addition of SWPPP modification requirements to measurable goals
- Updates were made to clearly identify responsible parties and corresponding responsibilities

BMP 6.3 Implement Nutrient Management Plans

No significant changes were made to BMP 6.3.

BMP 6.4 Revise and Implement Written Training Plan

No significant changes were made to BMP 6.4.

Chesapeake Bay TMDL for Nitrogen, Phosphorus and Sediment

Information was added regarding the Phase II Chesapeake Bay TMDL Action Plan, and Table 12 was added showing that the L2 goals were achieved based on both the 2009 and 2017 Land Use areas.

BMP CHESBAY.1 Chesapeake Bay TMDL Action Plan Implementation

Several updates were made to BMP CHESBAY.1, including:

- Stating that the TMDL Plan (Phase II) was completed, submitted to VADEQ, and approved
- Matching the stated measurable goals to those listed in the Phase II TMDL Plan for BMP Verification and maintenance of existing credits
- Listing information to be reported for new stream restorations and annual street sweeping as dictated in the plan
- Clearly identifying responsible parties and corresponding responsibilities

Local TMDL Action Plans

Bacteria TMDL for the Lower Accotink Creek Watershed

This section was updated to reflect 2020 review and updates to the plan.

BMP BAC.1 Bacteria TMDL Action Plan Revision and Reporting

BMP BAC.1 was updated to reflect goals and reporting as designated in the 2020 TMDL Action Plan. Responsibilities of the Responsible Party were detailed.

BMP BAC.2 Incorporate Bacteria TMDL Information into MS4 Training Program

This BMP was added as was designated in the 2020 TMDL Plan and details goals, reporting, and responsible parties.

BMP BAC.3 Public Education and Outreach

The previously designated BAC.2 was reassigned as BAC.3 to match the 2020 TMDL Plan. Goals, reporting, and responsible parties were updated.

Polychlorinated Biphenyls (PCB) TMDL for the Potomac River

This section was updated to include 2020 and 2021 updates to the plan.

BMP PCB.1 Distributed Educational Materials about PCBs

BMP PCB.1 was updated to include where brochures should be posted, and reporting was updated to include a narrative on locations, events, and/or entities to which educational materials are posted or distributed.

BMP PCB.2 Implement PCB Sampling Plan

Several updates were made to BMP PCB.2, including:

- Matching the BMP listed in the 2021 Plan
- Adding following the sampling plan and monitoring remediation efforts by the Restoration group
- Stating that reporting should include comparison of sampling results to WQC and a narrative of the status of historical PCB sites
- Clearly identifying responsible parties and corresponding responsibilities

BMP PCB.MP13 Maintain Vegetative Cap at Historical PCB Site MP-13

This BMP was added to match the 2021 PCB TMDL Action plan.

Sediment TMDL for the Lower Accotink Creek

This section and associated BMPs TSS.1 and TSS.2 were added to the Program Plan.

Chloride TMDL for the Lower Accotink Creek

This section and associated BMPs CL.1 through CL.7 were added to the Program Plan.

2022

APPENDIX A

2022 DELEGATION OF SIGNATURE AUTHORITY

FORT BELVOIR 2021-2022 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

2022

APPENDIX B

NEW STORMWATER MANAGEMENT FACILITIES AND MS4 OUTFALLS INSTALLED AND/OR DISCOVERED DURING 2021-2022 REPORTING PERIOD

FORT BELVOIR 2021-2022 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

PROJECT NAME:	Defense Logistics Agency (DLA) Ground Fuel Facility (VAR10N474)			JULY 1, 2021 - JUNE 30, 2022
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	2.58 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	2.58 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
A	Bioretention - Level 2	Water Quality & Quantity	0.73	0.34	0.39	Accotink Creek	Accoitnk Bay	PL30	38°41'15.01"N 77°08'45.01"W	8/13/2021	7871	8/13/2021
B	Bioretention - Level 2	Water Quality & Quantity	0.86	0.33	0.53	Accotink Creek	Accoitnk Bay	PL30	38°41'14.77"N 77°08'48.36"W	8/13/2021	7872	8/13/2021

PROJECT NAME:	Building 315 Renovation (No CGP)			JULY 1, 2021 - JUNE 30, 2022
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	0.3 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	0.3 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
BMP #1	Dry Swale - Level 1	Water Quality	0.29	0.17	0.12	Accotink Creek	Gunston Cove	PL30	38°41'04.81"N 77°08'12.33"W	5/4/2022	7884	5/4/2022

PROJECT NAME:	91st Cyber Brigade (VAR10L559)			JULY 1, 2021 - JUNE 30, 2022
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	4.2 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	4.2 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
A1	Bioretention - Level 2	Water Quality & Quantity	1.51	0.93	0.58	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'43.28"N 77°08'58.71"W	6/20/2022	7900	6/20/2022
A2	Bioretention - Level 2	Water Quality & Quantity	0.71	0.35	0.36	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'43.05"N 77°08'59.93"W	6/20/2022	7901	6/20/2022

PROJECT NAME:	**DAAF Fire Station Expansion --- SMFs Discovered During Field Investigation on March 26, 2022**				**JULY 1, 2021 - JUNE 30, 2022**
DISTURBED AREA (DA) WITHIN WATERSHED(S):					
Watershed 1	Accotink Creek	DISTURBED AREA =	0.68	acres	Project Plans were dated and approved for construction on May 2, 2013
Watershed 2		DISTURBED AREA =		acres	Project closure was reported to be during the 2013-2014 reporting period therefore the earliest date the facility could have been brought online was July 1, 2013. Therefore this date is used as the installation and most recent inspection date
		TOTAL DISTURBED AREA =	0.68	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
PP	Permeable Pavement - Level 1	Water Quality & Quantity	0.11	0.07	0.04	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'52.9"N 77°10'33.1"W	7/1/2013	7891	7/1/2013
SWM4	Bioretention - Level 1	Water Quality & Quantity	0.93	0.35	0.58	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'52.4"N 77°10'34.2"W	7/1/2013	7893	7/1/2013
SWM1	Dry Extended Detention Ponds - Level 1	Water Quality & Quantity	0.53	0.23	0.3	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'54.6"N 77°10'36.2"W	7/1/2013	7894	7/1/2013
SWM2	Dry Extended Detention Ponds - Level 1	Water Quality & Quantity	0.43	0.14	0.29	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'55.7"N 77°10'35.0"W	7/1/2013	7895	7/1/2013
SWM3	Dry Extended Detention Ponds - Level 1	Water Quality & Quantity	0.41	0.26	0.15	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°42'55.3"N 77°10'32.9"W	7/1/2013	7896	7/1/2013

PROJECT NAME:	**Defense Logistics Agency (DLA) Ground Fuel Facility (VAR10N474)**				**JULY 1, 2021 - JUNE 30, 2022**
DISTURBED AREA (DA) WITHIN WATERSHED(S):					
Watershed 1	Accotink Creek	DISTURBED AREA =	2.58	acres	
Watershed 2		DISTURBED AREA =		acres	
		TOTAL DISTURBED AREA =	2.58	acres	

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
N/A	1.59	Accotink Creek	Accotink Bay	PL30	38°41'15.06"N 77°08'51.67"W	From both Bioretention Units	7870

2022

APPENDIX C

SOCIAL MEDIA POSTINGS AND INTERACTION REPORT

FORT BELVOIR 2021-2022 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

2021-2022 Social Media Interaction Report

The Purpose of this document is to summarize the Published posts for the Fort Belvoir Environmental Division Facebook Page as they relate to Stormwater, Water Quality, and Pollution Prevention. The below shows all posts related to education, outreach, and public involvement from July 1, 2021 through June 30, 2022. For each post there is information on the content of the post, The reach (how many people viewed the post); and engagement (defined as post clicks, reactions, and shares)

Caption	Post time	Content type	Reach	Likes	Link clicks	Comments	Shares
Happy World Oceans Day!! Today we honor our worlds oceans and help protect and conserve them. Oceans provide oxygen, regulate our climate, proved food and medicine, purifies water and much more! Oceans cover over 70% of Earth and all our waterways eventually feed into it as a huge systems that supports every organism on this planet. Although Fort Belvoir is not next to an ocean all of our wetlands connect to the Atlantic Ocean through **the Chesapeake Bay!** Learn more about the ocean here:	2022-06-08T11:20:04	Facebook post	**20**	1	0	0	0
This past weekend we celebrated Earth Day and we couldn't have asked for better weather. On Friday we opened up our Environmental Education Center and had our Environmental Experts talk about all things wetlands, wildlife, trees, **stormwater** and much more! A huge thank you for those who came out from the Public Health Activity Fort Belvoir Soldiers on Fort Belvoir for collecting the most waste off of our Base! **Then on Saturday we hosted Cub Scout Pack #118 for Earth Day celebrations with their help we cleaned up the rest of the Basin and collected 15 bags! Thank you Pack #118 for all of your help, enthusiasm, and being great environmental stewards to our lands and waters!**	2022-04-25T05:31:38	Facebook post	**271**	5	45	0	1
We were featured in Alice Fergusons Potomac Watershed Cleanup! Thank you all once again for your help!	2022-04-18T08:41:52	Facebook post	**53**	1	6	0	0
Thank you to everyone who came out and helped clean our basin on our Potomac Watershed Cleanup, we couldn't have done it without you! In total **45 amazing volunteers came out and picked up 54 bags of trash!** Hope to see you all at our next event!	2022-04-12T04:37:04	Facebook post	**70**	3	8	0	0
Come Celebrate **Earth Day** With Us!	2022-04-06T08:11:21	Facebook post	**83**	4	6	0	0
The Stormwater Pollution Prevention Quarterly Newsletter is here! In this quarters edition, you'll be able to read about the upcoming virtual events, **tips on pollution prevention during spring** and important dates for MS4 and ISW Facilities to keep track of! We want to ensure everyone is helping Fort Belvoir stay in compliance with all our stormwater permits. Thank you for your time! Let us know if you have any questions.	2022-03-21T11:26:17	Facebook post	**50**	0	3	0	0
Looking for a way to get involved? In partnership with the Alice Ferguson Foundation we are holding our **Annual Potomac River Watershed Cleanup** to help keep our shorelines, bays, and wildlife refuge healthy! The cleanup will be on April 9th from 9am-12pm and volunteers will meet at the Accotink Bay Wildlife Refuge Environmental Education Center. Gloves and trash bags will be provided to all registered participants. Bring water and dress to get muddy, and remember to have the appropriate ID to get onto base! Contact Tomás Nocera at tomas.nocera.civ@army.mil or 703-806-0048 to register.	2022-03-16T06:12:51	Facebook post	**145**	2	3	2	1
Today is World Wetlands Day! Wetlands play a vital role in our world, protecting our shores from wave action, r**educing flood impacts, absorbing pollutants**, **improving water quality** and being home to about 40% of species of animals and plants in this world! Sadly, wetlands are disappearing at an exponential rate through climate change, invasive species, pollution and urbanization. Fort Belvoir has about 1400 acres of wetlands, making it a unique gem in Northern Virginia. We invite you to observe this day through learning more about wetlands in your community and begin to value them as a critical part of our world. To learn more visit: https://www.worldwetlandsday.org/about	2022-02-02T13:40:31	Facebook post	**36**	1	0	0	0
Thank you to everyone that helped support our International Coastal Cleanup by coming out and helping us clean our shorelines this past weekend. In total we removed **17 bags of trash!** Hope to see everyone out at our next event!	2021-10-18T10:29:51	Facebook post	**103**	11	7	0	0
Join us on **International Coast Cleanup Day** October 16th from 10:00am to 12:00pm to clean up our shorelines! With the support of Clean Virginia Waterways we are working to clean up our shoreline of waste and litter. We are happy to share this opportunity with you to celebrate International Coast Cleanup Day! Contact Tomás Nocera to register for this event at tomas.nocera.civ@mail.mil or 703-806-0048.	2021-10-05T07:29:34	Facebook post	**44**	1	0	0	0
We did it! Our wildflower garden and boardwalks are built and in usage! Thank you to all of the volunteers who came out and helped us on **National Public Lands Day!** We couldn't have done it without you! Hope to see you out and about when the flowers grow and bloom! Enjoy these photos of our work.	2021-09-28T10:57:16	Facebook post	**136**	13	30	3	1

2021-2022 Social Media Interaction Report

The Purpose of this document is to summarize the Published posts for the Fort Belvoir Environmental Division Facebook Page as they relate to Stormwater, Water Quality, and Pollution Prevention. The below shows all posts related to education, outreach, and public involvement from July 1, 2021 through June 30, 2022. For each post there is information on the content of the post, The reach (how many people viewed the post); and engagement (defined as post clicks, reactions, and shares)

Caption	Post time	Content type	Reach	Likes	Link clicks	Comments	Shares
The **fall stormwater newslette**r is here! Check out this season's edition for pollution prevention tips on fall landscaping and winterizing.	2021-09-21T07:18:14	Facebook post	**60**	3	0	0	0
Fairfax County, along with the City of Alexandria, have proposed a 5 cent plastic bag tax. With an extra Nickle for every bag, the County hopes to fund programs in environmental, education, and social impacts. A step in the right direction to reducing harmful waste. With this proposal, let's take a closer look at how **single-use plastic can be so harmful to our environment, as we track them from the Sea to the Shore.** For more information on the proposal visit: https://www.fairfaxcounty.gov/news/fairfax-county-hold-public-hearing-proposed-plastic-bag-tax#sthash.4VvAyKdT.sNG5omat.dpbs	2021-08-13T20:30:22	Facebook post	**53**	1	1	1	1
Fairfax County, along with the City of Alexandria, have proposed a 5 cent plastic bag tax. With an extra Nickle for every bag, the County hopes to fund programs in environmental, education, and social impacts. A step in the right direction to reducing harmful waste. With this proposal, let's take a closer look at how **single-use plastic can be so harmful to our environment, as we track them from the Sea to the Shore.** For more information on the proposal visit:https://www.fairfaxcounty.gov/news/fairfax-county-hold-public-hearing-proposed-plastic-bag-tax#sthash.xmOHzRPH.dpbs	2021-08-13T14:05:50	Facebook post	**52**	2	0	0	0
Happy World Conservation Day! On this day, acknowledge how the foundation for a healthy society is a healthy environment. Our planet's natural resources are important, and protecting them is crucial! The good news is, however big the world might seem, You can make a difference by **adopting simple and better practices to protect them!**	2021-07-28T08:30:59	Facebook post	**115**	7	5	1	1
The **Summer Stormwater Newslette**r is here!	2021-07-01T07:18:14	Facebook post	**54**	2	5	0	0
Total		**Average**	**84**			**Total**	**16**

Fort Belvoir Environmental Division
July 1, 2021

The Summer Stormwater Newsletter is here!

STORMWATER POLLUTION PREVENTION NEWSLETTER

ISSUE 13 — June 2021

INDUSTRIAL PERMIT CORNER (ISW)

QUARTERLY ROUTINE FACILITY INSPECTION DUE DATES

NEXT DUE:
Wednesday **June, 30th 2021**
*Excludes facilities that are under more frequent schedules.

ISW POLLUTION PREVENTION PLAN (SWPPP) TRAINING

As required by the ISW permit, ALL Industrial Facility personnel MUST complete SWPPP Training and Facility Inspections in 2021. Be sure to sign up with William Brown!
E-mail william.h.brown756.ctr@mail.mil
Phone Number 703-806-0046

MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT CORNER (MS4)

MS4 STORMWATER POLLUTION PREVENTION PLAN TRAINING

MS4 Permit Year:
June 30, 2020 – June 30, 2021
As required by the MS4 permit, ALL MS4 High Priority Facility personnel and MS4 Audiences including those involved in salt or pesticide application, outdoor storage and/or maintenance MUST complete SWPPP training. Be sure to sign up with Laura Peters!
E-mail Laura.J.Peters6.civ@mail.mil
Phone Number 703-806-0137

If You See Something, Say Something

Construction is the biggest cause of soil erosion and contamination to the Chesapeake Bay. The disturbed bare soil is more susceptible to being swept away by stormwater and can carry many pollutants to our streams. Chemicals, metals, nitrogen, phosphorous, fertilizers and pesticides can bind to sediment. Summer is a prime time for construction activities and you can help us maintain control of the issue associated with these active sites. If you see large amount of sediment tracking from construction sites of discharging directly into our local waters bodies, please contact Fort Belvoir Environmental Division through our facebook page @FortBelvoirEnvironmental, call us at 703-806-0137 or email Laura Peters at Laura.J.Peters6.civ@mail.mil.

Summer Pollution Prevention!

The Industrial Stormwater Permit is up for an audit this year by the Virginia Department of Environmental Quality (VADEQ). The Industrial Stormwater Major Permit requires each facility to maintain an updated SWPPP. Please ensure the SWPPP is available for review and that the following items are filed.

- Acknowledgement of Receipt - Signed
- Appendix A- Facility Specific SWPPP
  - An updated SWPPP out around August.
  - Ensure the 2017 document is saved within the SWPPP.
  - Ensure the Annual SWPPP questionnaires are within the SWPPP.
- Appendix B- Policy Memos
  - Ensure the most recent copies of memorandums #28 (2014), #71 (2018), #72 (2016) and, #73 (2018)
- Appendix C- BMP Fact Sheets
  - Ensure copies of the most up-to-date Fact Sheets from 2019 are filed
- Appendix H- Spills and Leaks
  - Includes All spills from 2017 – present
- Appendix I- Training Materials
  - All Annual training sign in sheets from 2017 – present
- Appendix J- Facility Inspections and Corrective Actions
  - All quarterly facility inspection reports.
  - Annual comprehensive inspection reports and,
  - Corrective Actions
- Hazardous Waste Management Plan
  - Included on SWPPP CD
- If your SWPPP is not up-to-date that can result in a violation to the Garrison. If you are missing anything, please let DPW Stormwater Program know ASAP so they can assist in getting your facility into compliance.

For questions, please contact DPW Environmental Division at 703-806-0627 or 678-773-8048.

To register SAA locations, contact Hazwaste at 703-806-4537

The Fort Belvoir Recycling Center and Refuse Disposal Facility Have Closed

•The Recycling Center (Building 1089) and The 21st Street Large Refuse Disposal Facility are permanently closed to Fort Belvoir tenants and residents.

•Fort Belvoir does not pick-up any recyclable materials from office building maintenance facilities, or other buildings.

•Military personnel and civilians may not use the facility for weighing personally owned vehicles (POVs) for Permanent Change of Station (PCS).

•Fort Belvoir does not collect large items for disposal such as furniture, appliances, scrap wood, used tires, concrete, or construction/demolition debris.

The Lorton Landfill and I-66 Transfer Station weigh POVs for PCS personnel for free. These locations may charge a fee for disposal of large items, costs may vary.

Lorton Landfill	I-66 Transfer Station	Potomac Landfill
Tires, Batteries, Scrap Metal, Etc. 9850 Furnace Road	E-Waste: F-W only Other Wastes: Daily	Construction & Demolition Debris Only

Fort Belvoir Environmental Division
July 28, 2021

Happy World Conservation Day!

On this day, acknowledge how the foundation for a healthy society is a healthy environment. Our planet's natural resources are important, and protecting them is crucial! The good news is, however big the world might seem, You can make a difference by adopting simple and better practices to protect them!

Fort Belvoir Environmental Division
August 13, 2021

Fairfax County, along with the City of Alexandria, have proposed a 5 cent plastic bag tax. With an extra Nickle for every bag, the County hopes to fund programs in environmental, education, and social impacts. A step in the right direction to reducing harmful waste.

With this proposal, let's take a closer look at how single-use plastic can be so harmful to our environment, as we track them from the Sea to the Shore.

For more information on the proposal visit:https://www.fai... See more

NATIONALGEOGRAPHIC.ORG
Plastic: Sea to Source
In order to tackle plastic pollution we are leading a multi-year initiative to support solutions to...

Fort Belvoir Environmental Division
August 13, 2021 ·

Fairfax County, along with the City of Alexandria, have proposed a 5 cent plastic bag tax. With an extra Nickle for every bag, the County hopes to fund programs in environmental, education, and social impacts. A step in the right direction to reducing harmful waste.

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For more information on the proposal visit: https://www.fa... See more

NATIONALGEOGRAPHIC.ORG
Tracking Plastics from Sea to Source
We've all heard about plastic ending up in t

1

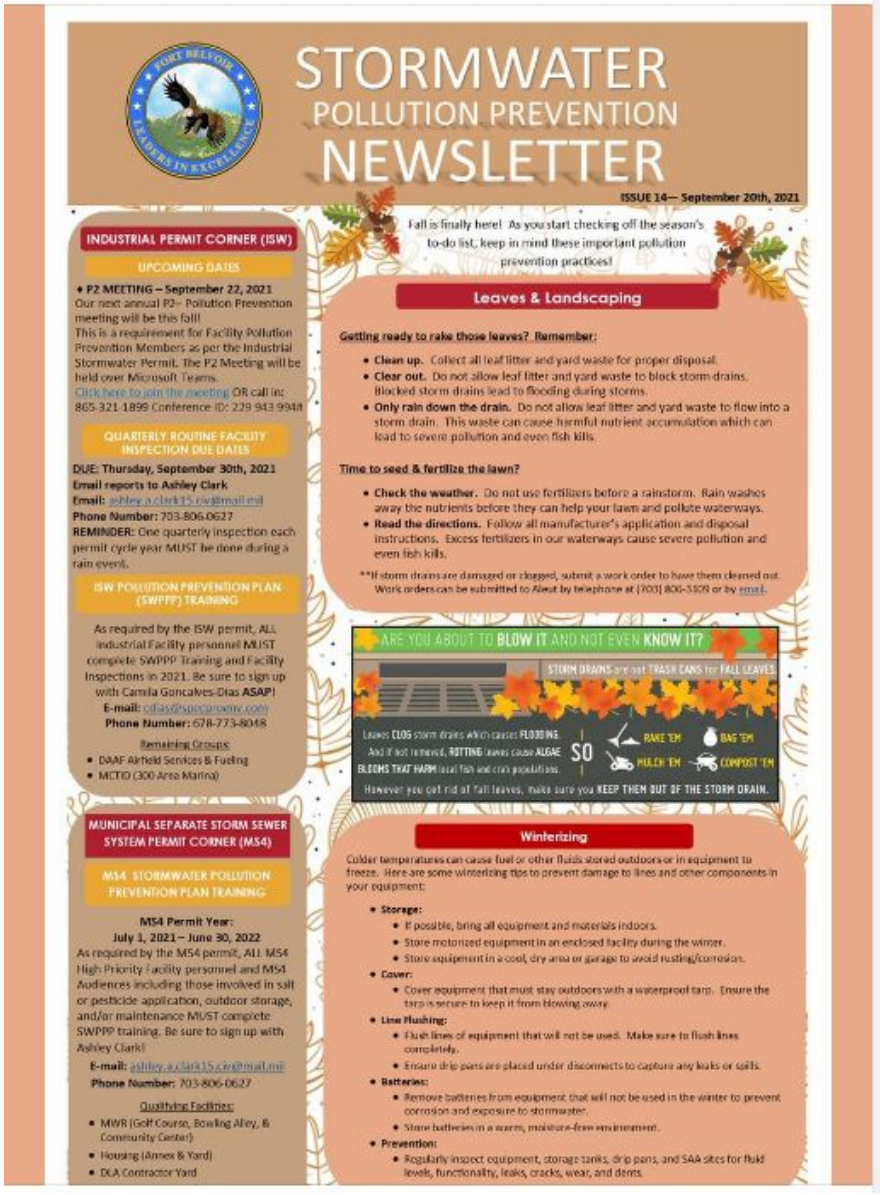
Fort Belvoir Environmental Division
October 5, 2021 ·

Join us on International Coast Cleanup Day October 16th from 10:00am to 12:00pm to clean up our shorelines! With the support of Clean Virginia Waterways we are working to clean up our shoreline of waste and litter. We are happy to share this opportunity with you to celebrate International Coast Cleanup Day! Contact Tomás Nocera to register for this event at tomas.nocera.civ@mail.mil or 703-806-0048.

1

Fort Belvoir Environmental Division
September 21, 2021 ·

The fall stormwater newsletter is here! Check out this season's edition for pollution prevention tips on fall landscaping and winterizing.



Fort Belvoir Environmental Division
September 28, 2021 ·

We did it! Our wildflower garden and boardwalks are built and in usage! Thank you to all of the volunteers who came out and helped us on National Public Lands Day! We couldn't have done it without you! Hope to see you out and about when the flowers grow and bloom! Enjoy these photos of our work.

7 3 Comments 1 Share

Like Comment Share

Most relevant

Write a comment...

Gina Adams Eckles
How do we get on the help list?
Like Reply 40w

Author
Fort Belvoir Environmental Division
Gina Adams Eckles Good morning! We post all events on this facebook page, but if you would like to get on our mailing list you can email

Fort Belvoir Environmental Division
October 18, 2021 ·

Thank you to everyone that helped support our International Coastal Cleanup by coming out and helping us clean our shorelines this past weekend. In total we removed 17 bags of trash!

Hope to see everyone out at our next event!

Ashley McMahon and 9 others

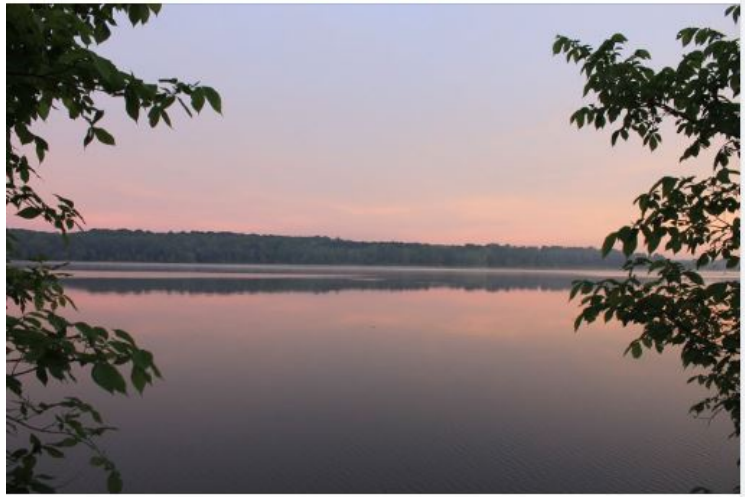
Fort Belvoir Environmental Division
February 2 ·

Today is World Wetlands Day!

Wetlands play a vital role in our world, protecting our shores from wave action, reducing flood impacts, absorbing pollutants, improving water quality and being home to about 40% of species of animals and plants in this world! Sadly, wetlands are disappearing at an exponential rate through climate change, invasive species, pollution and urbanization.

Fort Belvoir has about 1400 acres of wetlands, making it a unique gem in Northern Virginia. We invite you to observe this day through learning more about wetlands in your community and begin to value them as a critical part of our world.

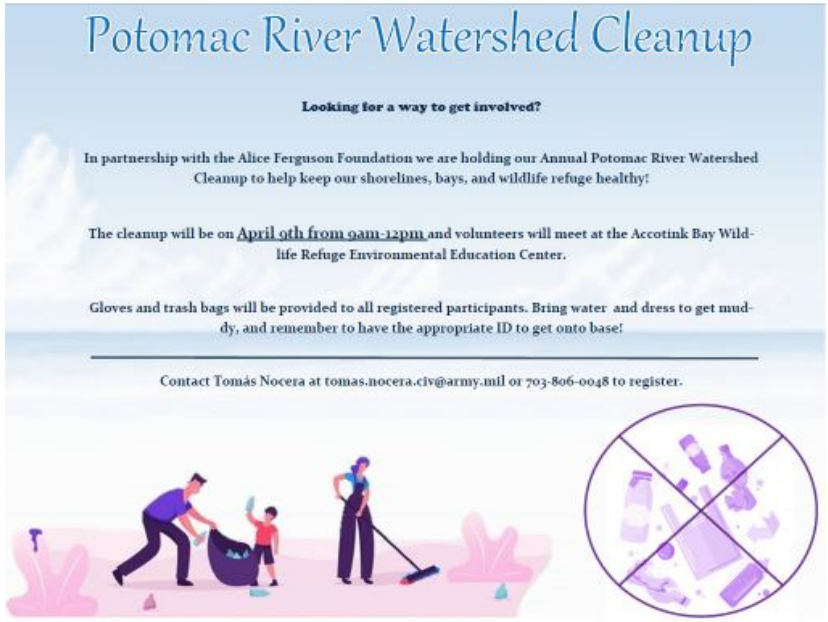
To learn more visit: https://www.worldwetlandsday.org/about



Fort Belvoir Environmental Division
March 16 ·

Looking for a way to get involved?

In partnership with the Alice Ferguson Foundation we are holding our Annual Potomac River Watershed Cleanup to help keep our shorelines, bays, and wildlife refuge healthy! The cleanup will be on April 9th from 9am-12pm and volunteers will meet at the Accotink Bay Wildlife Refuge Environmental Education Center. Gloves and trash bags will be provided to all registered participants. Bring water and dress to get muddy, and remember to have the ... See more



2 2 Comments 1 Share

Like Comment Share

Most relevant

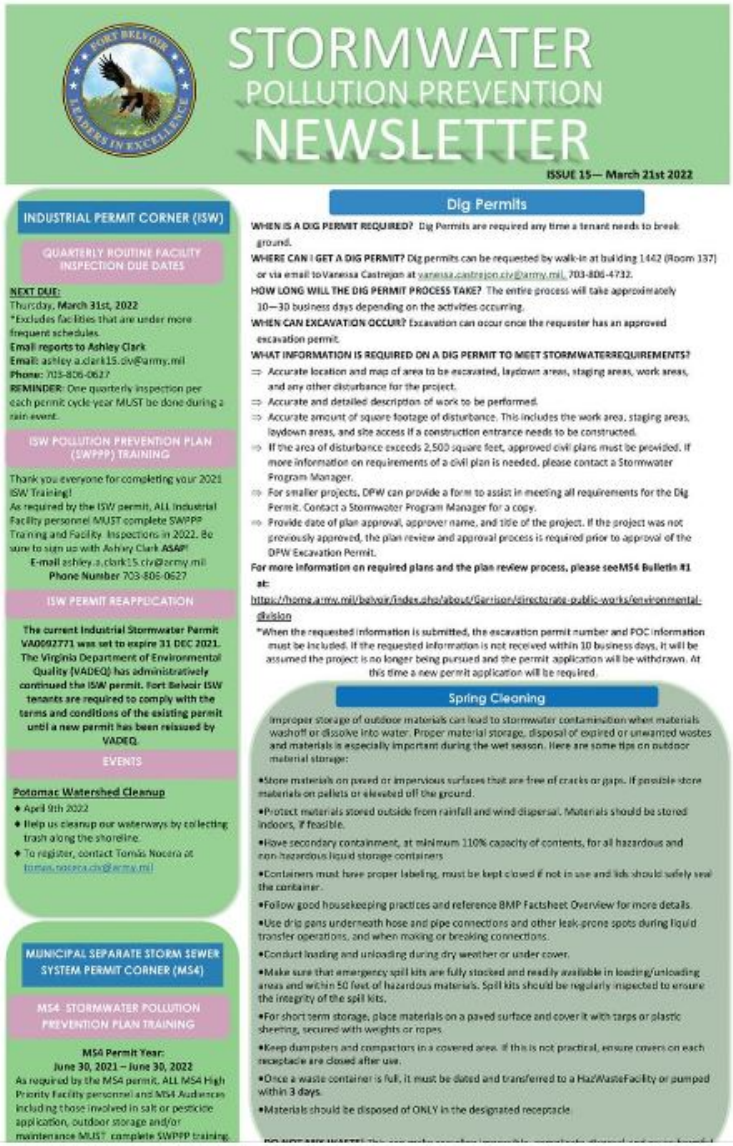
Write a comment...

Stanley Jacobs Stolpe
Would like to participate from my tandem kayak from the water side. Does this work for you?
Like Reply 16w

Author
Fort Belvoir Environmental Division
Stanley Jacobs Stolpe absolutely! We welcome any and all volunteers, we just ask that you register so we get a head count and can provide you with bags and gloves on that day! Thank you so much!
Like Reply 16w

Fort Belvoir Environmental Division
March 21 ·

The Stormwater Pollution Prevention Quarterly Newsletter is here! In this quarters edition, you'll be able to read about the upcoming virtual events, tips on pollution prevention during spring and important dates for MS4 and ISW Facilities to keep track of! We want to ensure everyone is helping Fort Belvoir stay in compliance with all our stormwater permits. Thank you for your time! Let us know if you have any questions.



Fort Belvoir Environmental Division
April 6 ·

Come Celebrate Earth Day With Us!

Fort Belvoir Environmental Division
April 12 ·

Thank you to everyone who came out and helped clean our basin on our Potomac Watershed Cleanup, we couldn't have done it without you! In total 45 amazing volunteers came out and picked up 54 bags of trash!

Hope to see you all at our next event!

Fort Belvoir Environmental Division
April 18 ·

We were featured in Alice Fergusons Potomac Watershed Cleanup! Thank you all once again for your help!

Alice Ferguson Foundation is with **Washington County Government - Maryland** and **2 others.**
April 14 ·

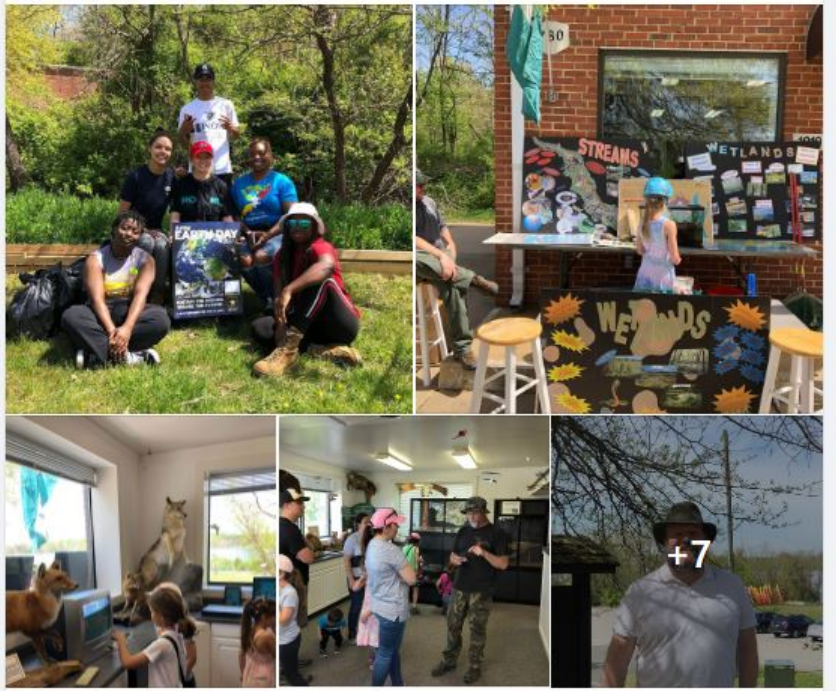
Let's take a look around the #PotomacCleanup from this past weekend! 😻

A huge thank you to all the groups who sent in their photos.
If you lead a cleanup and w... See more

Fort Belvoir Environmental Division
April 25 ·

This past weekend we celebrated Earth Day and we couldn't have asked for better weather. On Friday we opened up our Environmental Education Center and had our Environmental Experts talk about all things wetlands, wildlife, trees, stormwater and much more! A huge thank you for those who came out from the Public Health Activity Fort Belvoir Soldiers on Fort Belvoir for collecting the most waste off of our Base!

Then on Saturday we hosted Cub Scout Pack #118 for Earth Day celeb... See more



Fort Belvoir Environmental Division
June 8 ·

Happy World Oceans Day!!

Today we honor our worlds oceans and help protect and conserve them. Oceans provide oxygen, regulate our climate, proved food and medicine, purifies water and much more! Oceans cover over 70% of Earth and all our waterways eventually feed into it as a huge systems that supports every organism on this planet. Although Fort Belvoir is not next to an ocean all of our wetlands connect to the Atlantic Ocean through the Chesapeake Bay!

Learn more about the ocean here:

UN.ORG
World Oceans Day | United Nations

2022

APPENDIX D

2021-2022 - PERMIT YEAR 4 OUTFALL RECONNAISSANCE INVENTORY (ORI) INSPECTION AND FINDINGS SUMMARY TABLE

FORT BELVOIR 2021-2022 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

Outfall Information		Screening Event Information											Land Use Information			Outfall Description and C						
Outfall ID	Illicit Discharge Characterization	Inspection Date	Time Military	Investigators	Outside Temperature (F)	Last Rainfall Date	Last Rainfall Time	Last Rainfall Amount	Hours Since Last Rainfall	Latitude	Longitude	Sub-Watershed	Land use in the Area	Known Industries	Origin of Outfall	Outfall Type	Pipe Material	Pipe Shape	Number of Pipes	Pipe Dimensions	Channel Material	Channel Material Comment	Channel Shape
1715	Obvious	29-Mar-22	11:15	David Greenspan	32	26-Mar-22	15:56	0.03	67.32	38.67396737	-77.13717439	14	Roads/Parking Areas, Institutional	300 Area, Bldg 337, Wilson Road	Outfall drains portions of the lower 300 area including Bldg 337 and surrounding roads.	Closed Pipe	Steel	Circular	Double	A: 18", B: 18"	-	-	-
67	Potential	17-Feb-22	14:11	David Greenspan	70	13-Feb-22	14:11	0.07	96.00	38.70716667	-77.13275000	27	Suburban Residential	George Washington Village	Drainage from an underground detention system within George Washington Village which receives landscaped areas as well as portions of Inventor Road and Mount Vernon Road.	Closed Pipe	RCP	Circular	Single	36"	-	-	-
6791	Potential	3-Mar-22	11:22	David Greenspan	54	25-Feb-22	7:56	0.07	147.43	38.74840773	-77.19142014	53	Roads/Parking Areas, Institutional	NGA, Heller Road	Drains portions of Heller Road at the southern end of Fort Belvoir North Area.	Closed Pipe	RCP	Circular	Single	53"	-	-	-
6849	Potential	3-Mar-22	10:59	David Greenspan	53	25-Feb-22	7:56	0.07	147.05	38.74977146	-77.20307929	53	Roads/Parking Areas, Institutional	NGA RIF, Heller Road	Outfall drains portions of Heller Road as well as the NGA Remote Inspection Facility.	Closed Pipe	RCP	Circular	Triple	A: 4", B: 18", C: 4"	-	-	-
984	Suspect	15-Feb-22	13:37	David Greenspan	39	13-Feb-22	14:09	0.07	47.47	38.69188319	-77.13087154	21	Commercial	Building 247	Outfall is behind Building 247 and receives drainage from administrative buildings.	Closed Pipe	RCP	Circular	Single	30"	-	-	-
6951	Suspect	3-Mar-22	9:58	David Greenspan	51	25-Feb-22	7:56	0.07	146.03	38.75447346	-77.20208871	53	Roads/Parking Areas, Institutional	NGA, Barta Road	Drains Barta Road and is the outfall from a Stormwater Detention Pond.	Closed Pipe	RCP	Circular	Single	36"	-	-	-
150	Unlikely	17-Feb-22	14:21	David Greenspan	70	13-Feb-22	14:09	0.07	96.20	38.70664200	-77.13558700	25	Suburban Residential	George Washington Village	Outfall drains open space adjacent to George Washington Village	Closed Pipe	RCP	Elliptical	Single	18" x 12"	-	-	-
349	Unlikely	17-Feb-22	14:38	David Greenspan	69	13-Feb-22	14:09	0.07	96.48	38.71718000	-77.15305400	24	Roads/Parking Areas, Open Space	Gunston Road	Outfall is a culvert that runs adjacent to Gunston Road and drains a wooded area and amphitheater.	Closed Pipe	HDPE	Circular	Single	12"	-	-	-
439	Unlikely	17-Feb-22	14:03	David Greenspan	67	13-Feb-22	14:09	0.07	95.90	38.70150017	-77.13576623	24	Institutional	WTU Annex	Administrative buildings area and the WTU Annex.	-	-	-	-	-	-	-	-
482	Unlikely	17-Feb-22	13:44	David Greenspan	66	13-Feb-22	14:09	0.07	95.58	38.69945859	-77.13593848	24	Open Space, Institutional	Old Dewitt Hospital	Area drains what used to be the Old Dewitt Hospital area which is now mostly open space.	Closed Pipe	CMP	Circular	Single	21"	-	-	-
499	Unlikely	17-Feb-22	13:53	David Greenspan	67	13-Feb-22	14:09	0.07	95.73	38.70085082	-77.13574888	24	Institutional	WTU Annex/Old Dewitt Hospital	Outfall is on the corner of a parking lot - of the WTU Annex and adjacent to the Old Dewitt Hospital which is now open space.	Closed Pipe	RCP	Circular	Single	15"	-	-	-
509	Unlikely	17-Feb-22	13:59	David Greenspan	67	13-Feb-22	14:09	0.07	95.83	38.70066038	-77.13537228	24	Institutional	WTU Annex/Old Dewitt Hospital	Outfall is from a parking lot behind the WTU Annex adjacent to where the Old Dewitt Hospital used to be located.	-	-	-	-	-	-	-	-
673	Unlikely	15-Feb-22	13:15	David Greenspan	37	13-Feb-22	14:09	0.07	47.10	38.69423339	-77.13680534	22	Suburban Residential, Commercial	200 Area	Outfall drains the 200 Area at Fort Belvoir which is mostly commercial and some residential.	Closed Pipe	RCP	Circular	Triple	A: 6", B: 48", C: 6"	-	-	-
676	Unlikely	15-Feb-22	13:07	David Greenspan	37	13-Feb-22	14:09	0.07	46.97	38.69444671	-77.13708445	22	Suburban Residential, Commercial	200 Area	Outfall drains the 200 Area at Fort Belvoir which is mostly commercial and some residential.	Closed Pipe	CMP	Circular	Single	15"	-	-	-
811	Unlikely	15-Feb-22	13:49	David Greenspan	38	13-Feb-22	14:09	0.07	47.67	38.69747048	-77.13011364	22	Suburban Residential	Dogue Creek Village	Outfall is from Dogue Creek Village, a residential community.	Closed Pipe	PVC	Circular	Single	6"	-	-	-
884	Unlikely	15-Feb-22	13:57	David Greenspan	39	13-Feb-22	14:09	0.07	47.80	38.69582755	-77.12801859	22	Suburban Residential	Dogue Creek Village	Outfall is from curb inlets within Dogue Creek Village, a residential community.	Closed Pipe	RCP	Circular	Single	30"	-	-	-
896	Unlikely	21-Jun-22	14:04	David Greenspan	79	16-Jun-22	5:24	0.11	128.67	38.69575370	-77.12691461	22	Suburban Residential	Dogue Creek Village	Outfall is from curb inlets within Dogue Creek Village, a residential community.	Closed Pipe	RCP	Circular	Single	18"	-	-	-
911	Unlikely	15-Feb-22	14:09	David Greenspan	41	13-Feb-22	14:09	0.07	48.00	38.69283370	-77.12538407	21	Suburban Residential	Dogue Creek Village	Outfall is from curb inlets within Dogue Creek Village, a residential community.	Closed Pipe	RCP	Circular	Single	18"	-	-	-
917	Unlikely	15-Feb-22	14:28	David Greenspan	41	13-Feb-22	14:09	0.07	48.32	38.69322513	-77.12482508	21	Suburban Residential	Dogue Creek Village	Outfall is from curb inlets within Dogue Creek Village, a residential community.	Closed Pipe	RCP	Circular	Single	15"	-	-	-
920	Unlikely	15-Feb-22	14:21	David Greenspan	41	13-Feb-22	14:09	0.07	48.20	38.69317099	-77.12515625	21	Suburban Residential	Dogue Creek Village	Outfall is from curb inlets within Dogue Creek Village, a residential community.	Closed Pipe	RCP	Circular	Single	18"	-	-	-
923	Unlikely	15-Feb-22	14:16	David Greenspan	41	13-Feb-22	14:09	0.07	48.12	38.69308339	-77.12523781	21	Suburban Residential	Dogue Creek Village	Outfall is from curb inlets within Dogue Creek Village, a residential community.	Closed Pipe	RCP	Circular	Single	18"	-	-	-
1239	Unlikely	17-Feb-22	13:15	David Greenspan	67	13-Feb-22	14:09	0.07	95.10	38.68301203	-77.12790677	15	Suburban Residential	Belvoir Village	Outfall drains portions of Belvoir Village - of Fairfax Drive.	Closed Pipe	CMP	Circular	Single	18"	-	-	-

Outfall Information		Conditions							Flow Characterization																			Physical Indicators at Flowing Outfalls					
Outfall ID	Illicit Discharge Characterization	Channel Shape Comment	Channel Depth	Channel Top Width	Channel Bottom Width	Submerged in Water?	Buried in Sediment?	Amount of Water/Sediment	Flow Present?	Sample Taken?	Sample Taken From?	Flow Measurement	Volume (mL)	Time to fill (sec)	Flow depth (in)	Length (in)	Width (in)	Time of Travel (sec)	Flow Rate (cfs)	Water Temp	pH	Ammonia (mg/L)	Fluoride (mg/L)	Phosphorus (mg/L)	Free Cl (mg/L)	Total Cl (mg/L)	Nitrate	Nitrite	Indicators in Flow?	Odor	Odor Severity	Color	Color Severity	Turbidity
1715	Obvious	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	-	-	-	-	-	-	-	-	44.2	6.88	0.04	0.61	0.17	0.03	0.04	1.1	0.007	-	-	-	-	-	-
67	Potential	-	-	-	-	Partially Submerged	Not Buried	~5" water	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	50.5	7.05	0.23	0.12	0.04	0.03	0.06	0.6	0.018	Color	-	-	Orange	Faint color in bottle	-
6791	Potential	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.25	0	0	0.86	0.015141	45.3	7.21	0	0.1	0.05	0.01	0.03	0.2	0.007	Color, Floatablaes	-	-	Orange	Faint color in bottle	-
6849	Potential	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.3125	0	0	0.39	0.027822	47.3	7.05	0.03	0.13	0.03	0.04	0.04	0.2	0.005	Color, Floatablaes	-	-	Orange	Faint color in bottle	-
984	Suspect	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.25	0	0	0.69	0.0150966	51	7.34	0.65	0.48	0.46	0	0.15	0.3	0.006	-	-	-	-	-	-
6951	Suspect	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.25	0	0	0.55	0.01893939	47.8	6.98	0.11	0.1	0.03	0.05	0.05	1	0.37	Odor, Color	Petroleum/ gas, Sulfide	Easily Detected	Orange	Faint color in bottle	-
150	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Trickle	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
349	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
439	Unlikely	-	-	-	-	Not Submerged	Fully Buried	Fully buried	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
482	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	51.8	6.97	0.01	0.36	0.04	0.03	0.04	0.3	0.005	-	-	-	-	-	-
499	Unlikely	-	-	-	-	Not Submerged	Partially Buried	~8" sediment, ~7" leaf litter	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
509	Unlikely	-	-	-	-	Not Submerged	Fully Buried	Fully buried	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
673	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.375	0	0	2.77	0.01128	44	7.19	0.15	0.09	0.02	0	0	0.3	0.12	-	-	-	-	-	-
676	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
811	Unlikely	-	-	-	-	Fully Submerged	Not Buried	Fully underwater	No	Yes	Pool	-	-	-	-	-	-	-	-	32	7.23	0.15	0.23	0.03	0.01	0.03	0.2	0.016	-	-	-	-	-	-
884	Unlikely	-	-	-	-	Partially Submerged	Not Buried	~1/2" water, ~3" leaf litter	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	42	6.76	0.09	0.06	0.02	0.01	0.04	0.3	0.005	-	-	-	-	-	-
896	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
911	Unlikely	-	-	-	-	Not Submerged	Partially Buried	~10" leaf litter	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	42	7.18	0.04	0.02	0.07	0	0.03	0.2	0.006	-	-	-	-	-	-
917	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
920	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
923	Unlikely	-	-	-	-	Partially Submerged	Partially Buried	~3" water, ~1" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1239	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Outfall Information		Physical Indicators at Flowing and Non-Flowing Outfalls						Maintenance Tracker		
Outfall ID	Illicit Discharge Characterization	Floatables	Floatables Severity	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes	Work Order Number	Date Submitted	Status
1715	Obvious	-	-	No indicators	-	-	Outfall is in good condition with two pipes, and pipe A was flowing at the time of inspection. Pipes are only visible at low tide, and are otherwise underwater. Source tracking has already been completed, and there is a known illicit connection from Bldg 337 that feeds into this outfall, so it is almost always flowing. A sample was taken from the flow but it was too dangerous to determine flow rate without falling into the water.			
67	Potential	-	-	Outfall Damage, Deposits/Stains, Poor Pool Quality, Benthic Growth	Spalling, Cracking, Chipping, Flow Line, Sheen, Orange Algae	Cracking of pipe end section present, visible flow line present, sheen on water surface present, iron floc present.	Outfall was flowing and had ~5" of water within the pipe but flow was too slow to determine flow rate. Water had a sheen on the surface as well as heavy iron floc growth. Outfall concrete pipe has some chipping occurring structurally. A sample was taken from the pool within the pipe.			
6791	Potential	Suds	Few/Slight; Origin not obvious	Poor Pool Quality	Colors, Suds	Iron floc and suds present.	Outfall was flowing at the time of the inspection and a sample was taken from the flow. Outfall had obvious signs of iron floc present in flow and pool, as well as some suds buildup just below the lip of the outfall, possibly from biological sources. Outfall was in good condition otherwise. Source tracking performed found a stormwater pond which drains to outfall with standing water and decaying plant matter present.	-	-	No Repairs Required
6849	Potential	Suds	Few/Slight; Origin not obvious	Poor Pool Quality	Colors, Suds	Iron floc and suds present.	Outfall consists of three pipes, all of which were flowing at the time of the inspection. Pipe B was the largest and main pipe and the sample as well as flow rate were taken from this pipe. All pipes had iron floc growth present. Outfall and channel were in good condition. Pipe A and C were HDPE pipes, while Pipe B is an RCP. Some suds present just below discharge point. Source tracking performed found a stormwater pond which drains to outfall with standing water and decaying plant matter present.	-	-	No Repairs Required
984	Suspect	-	-	Outfall Damage	Structural Damage	Broken sections and undercutting of headwall present.	Outfall was flowing at the time of inspection and a sample was taken from the flow. Headwall was in acceptable condition with some broken sections, and was also undercutting with the receiving channel being moderately eroded. Source tracking was performed and determined an unknown pipe within area inlet 993 pointing towards Building 247 which was flowing. Outfall is considered Suspect until the source of the unknown pipe is identified.			
6951	Suspect	-	-	Deposits/Stains, Poor Pool Quality	Flow Line, Odors, Colors, Sheen, Suds	Orange flow stain line present, sheen, suds, odor, and orange colors present.	Outfall is difficult to locate and covered by trees/brush. Outfall has a sheen, suds, and iron floc growth present. An easily detectable petroleum/oil smell was noticed close to the outfall pool, as well as a sulfur smell. Outfall was flowing and a sample was taken from the flow.	-	-	No Repairs Required
150	Unlikely	-	-	No indicators	-	-	Outfall was damp and had an extremely minimal trickle flow, too small to measure or take a sample. Outfall is in good condition and discharges to a concrete channel which was flowing at the time of inspection. An inspection of the inlet at the top of the hill shows that it is completely clogged and needs to be cleaned out, which is why this outfall seems to be constantly flowing.	-	-	No Repairs Required
349	Unlikely	-	-	No indicators	-	-	Outfall is in good condition with no erosion and rip-rap in place. Flow path is in good condition, no flow was present at the time of inspection.	-	-	No Repairs Required
439	Unlikely	-	-	Blockage	Sediment	Pipe is fully buried under sediment.	Outfall was not found during the inspection. Outfall was in an area adjacent to a parking lot and is likely buried. Brush and surrounding area was checked but no outfall was found.			
482	Unlikely	-	-	Outfall Damage	Corrosion, Structural Damage	Pipe corroded and internally collapsed.	Pipe has corroded out from age as well as collapsed internally. A slight trickle flow was present and a sample was taken from the pool as the flow was too slow to determine flow rate or take a sample from. Some undercutting of the concrete flume is present at the outfall. This outfall was considered unlikely as trickle flow was too low to indicate a presence of an illicit discharge, outfall had no indicators of poor water quality, and water sample results show no elevated levels.			
499	Unlikely	-	-	Blockage	Sediment, Tree Litter	~50% blocked with sediment and ~40% blocked with accumulated leaf litter.	Outfall is ~50% buried under sediment with additional leaf litter almost completely burying the outfall. No flow was present during the inspection.			
509	Unlikely	-	-	Blockage	Sediment	Pipe is fully buried under sediment.	Outfall was not located during the inspection. Area where outfall is supposed to be has some heavy erosion and it seems likely the outfall is buried.			
673	Unlikely	-	-	Benthic Growth	Orange Benthic Growth	Some iron floc present in Pipe C.	Outfall consists of three pipes: A, B, and C. Outfall is within a stormwater channel section which was flowing at the time of the inspection. Outfall pipe A and B were also flowing. Outfall structure was in good shape as well as the receiving channel. Sample was taken from Pipe B. This outfall was considered unlikely as while flow was moderate, no indicators for poor water quality existed at this outfall, and water sample results show no elevated levels.	-	-	No Repairs Required
676	Unlikely	-	-	Outfall Damage	Corrosion, Structural Damage	Corrosion and rusting out of bottom of pipe as well as some undercutting of structure occurring.	Pipe not flowing at the time of inspection. Some undercutting of structure occurring as well as moderate erosion in receiving channel of the outfall. Pipe is corroded and the bottom has rusted out as well.			
811	Unlikely	-	-	No indicators	-	-	Outfall is completely underwater and was not flowing at the time of inspection. Outfall is currently surrounded by silt fence for protection due to the ongoing Dogue Creek Village Renovations Project. A sample was taken from the pool.	-	-	No Repairs Required
884	Unlikely	-	-	Outfall Damage, Blockage	Spalling, Cracking, Chipping, Tree Litter	Some cracking of headwall present, leaf litter accumulation present.	Approximately 1/2" deep standing/trickling water present with 3" leaf litter accumulation, flow was mostly blocked due to leaf litter and was a trickle flow, too slow to measure. Some cracking of headwall structure present. Receiving channel in good condition with minimal erosion with no rip-rap present. This outfall was considered unlikely as trickle flow was too low to indicate a presence of an illicit discharge, outfall had no indicators of poor water quality, and water sample results show no elevated levels.			
896	Unlikely	-	-	Outfall Damage	Spalling, Cracking, Chipping, Structural Damage, Orange Algae	Chipping of headwall and splitting of concrete flume.	No flow present at outfall, with no pool or standing water. Some spalling of concrete headwall structure present. Concrete flume outfall point has worn in half and is no longer functional.			
911	Unlikely	-	-	Abnormal Vegetation, Blockage	Inhibited, Tree Litter	Tree growth partially blocking flow path, heavy leaf litter accumulation.	Approximately 10" leaf litter accumulation. Trickle flow present but mostly blocked due to leaf litter, too slow to measure. Vegetative growth partially blocking flow as well, no rip-rap present. Receiving channel in acceptable condition with some erosion especially further downstream. This outfall was considered unlikely as trickle flow was too low to indicate a presence of an illicit discharge, outfall had no indicators of poor water quality, and water sample results show no elevated levels.			
917	Unlikely	-	-	Outfall Damage	Structural Damage	Severe undercutting, structure in danger of collapsing.	No flow present, headwall in good condition. Severe undercutting of structure occurring with heavy erosion downstream as well as heavy trash accumulation within channel. Structure is in danger of collapsing.			
920	Unlikely	-	-	Outfall Damage	Structural Damage	Endwall missing, three collapsed pipe sections.	Substantial structural damage to outfall with endwall section missing as well as three (3) collapsed pipe sections in heavily eroded receiving channel. No flow present but standing pool present in eroded channel.			
923	Unlikely	-	-	Outfall Damage, Blockage	Spalling, Cracking, Chipping, Sediment, Tree Litter	Cracking and shifting of outfall present, some sediment and leaf litter accumulation present.	Outfall had standing water in it but was not flowing. A minor biological sheen was seen on the surface of the water, likely from leaf decomposition. Outfall structure was damaged with heavy cracking and shifting in place of structure.			
1239	Unlikely	-	-	Outfall Damage	Structural Damage	Completely collapsed and eroded with pipe sections detached.	Outfall is completely collapsed and eroded out, with severe erosion at outfall point as well as upstream and downstream. There are collapsed pipe sections within the ravine that has been created due to erosion. No flow was present at the time of inspection.			

Outfall Information		Screening Event Information											Land Use Information			Outfall Description and C						
Outfall ID	Illicit Discharge Characterization	Inspection Date	Time Military	Investigators	Outside Temperature (F)	Last Rainfall Date	Last Rainfall Time	Last Rainfall Amount	Hours Since Last Rainfall	Latitude	Longitude	Sub-Watershed	Land use in the Area	Known Industries	Origin of Outfall	Outfall Type	Pipe Material	Pipe Shape	Number of Pipes	Pipe Dimensions	Channel Material	Channel Material Comment	Channel Shape
1712	Unlikely	29-Mar-22	11:23	David Greenspan	32	26-Mar-22	15:56	0.03	67.45	38.67521284	-77.13470718	14	Roads/Parking Areas, Institutional	300 Area, Bldg 367	Outfall drains portions of roads and parking areas around Building 367, from one drain inlet #1713.	Closed Pipe	RCP	Circular	Single	15"	-	-	-
1860	Unlikely	29-Mar-22	9:29	David Greenspan	30	26-Mar-22	15:56	0.03	65.55	38.68283700	-77.13402400	14	Roads/Parking Areas, Open Space, Institutional	300 Area, Bldg 363	Outfall is within a stream channel section behind Building 363 and drains portions of the building and concrete pads behind the building.	Closed Pipe	Steel	Circular	Single	12"	-	-	-
1863	Unlikely	29-Mar-22	9:35	David Greenspan	30	26-Mar-22	15:56	0.03	65.65	38.68354185	-77.13454910	14	Roads/Parking Areas, Open Space, Institutional	300 Area, Bldg 363	Outfall is a small pipe, likely roof drains from Bldg 363.	Closed Pipe	HDPE	Circular	Single	4"	-	-	-
2131	Unlikely	29-Mar-22	12:35	David Greenspan	36	26-Mar-22	15:56	0.03	68.65	38.67611105	-77.14394923	12	Open Space, Institutional	300 Area, SM-1 Nuclear Reactor	Outfall is a culvert underneath the access road that is SE and goes to the SM-1 Nuclear Reactor Facility, Building 372.	Closed Pipe	CMP	Circular	Single	24"	-	-	-
2132	Unlikely	29-Mar-22	12:45	David Greenspan	36	26-Mar-22	15:56	0.03	68.82	38.67595070	-77.14494349	12	Roads/Parking Areas, Institutional	SM-1 Nuclear Reactor	Outfall drains the Building 372 (SM-1 Nuclear Reactor) as well as the surrounding roads and parking.	Closed Pipe	CMP	Circular	Single	15"	-	-	-
2170	Unlikely	29-Mar-22	11:56	David Greenspan	34	26-Mar-22	15:56	0.03	68.00	38.67366009	-77.13504908	14	Roads/Parking Areas, Institutional	300 Area, Bldg 367	Outfall drains portions of land around Bldg 367.	Closed Pipe	RCP	Circular	Single	15"	-	-	-
2171	Unlikely	29-Mar-22	12:03	David Greenspan	34	26-Mar-22	15:56	0.03	68.12	38.67381323	-77.13387913	14	Open Space, Institutional	300 Area, Bldg 367	Outfall drains portions SE of Building 367 which includes the building and mostly open space.	Closed Pipe	RCP	Circular	Single	15"	-	-	-
2173	Unlikely	29-Mar-22	11:59	David Greenspan	34	26-Mar-22	15:56	0.03	68.05	38.67384810	-77.13441557	14	Roads/Parking Areas, Institutional	300 Area, Bldg 367	Outfall drains portions of Building 367 including the surrounding hard-paved areas.	Closed Pipe	Steel	Circular	Single	8"	-	-	-
2200	Unlikely	29-Mar-22	9:26	David Greenspan	30	26-Mar-22	15:56	0.03	65.50	38.68346625	-77.13419932	14	Open Space, Institutional	300 Area, Bldg 363	Outfall drains areas behind Building 363 which includes Open Space to a rip-rap channel.	Closed Pipe	PVC	Circular	Single	6"	-	-	-
2207	Unlikely	29-Mar-22	9:21	David Greenspan	30	26-Mar-22	15:56	0.03	65.42	38.68368083	-77.13469578	14	Roads/Parking Areas, Open Space, Institutional	300 Area, Bldg 319	Outfall drains portions of Building 319 and parking around the Building.	Closed Pipe	Steel	Circular	Single	8"	-	-	-
2531	Unlikely	29-Mar-22	10:40	David Greenspan	33	26-Mar-22	15:56	0.03	66.73	38.67932911	-77.14301482	11	Roads/Parking Areas, Open Space	Bldg 358 Parking, 300 Area, Morrow Road (gravel road)	Outfall drains portions of parking adjacent to Bldg 358 as well as open space and woods.	Closed Pipe	RCP	Circular	Single	36"	-	-	-
2542	Unlikely	29-Mar-22	10:03	David Greenspan	33	26-Mar-22	15:56	0.03	66.12	38.68141143	-77.13874122	11	Roads/Parking Areas, Institutional	300 Area, Building 328	Outfall drains portions of parking around Building 328 and the institutional area.	Closed Pipe	RCP	Circular	Single	27"	-	-	-
2544	Unlikely	29-Mar-22	10:08	David Greenspan	33	26-Mar-22	15:56	0.03	66.20	38.68127380	-77.13899662	11	Roads/Parking Areas, Open Space, Institutional	300 Area, Building 325	Outfall drains portions of open space and parking for Building 325.	Closed Pipe	RCP	Circular	Single	24"	-	-	-
2820	Unlikely	21-Jun-22	12:23	David Greenspan	79	16-Jun-22	5:24	0.11	126.98	38.68081388	-77.14038542	11	Roads/Parking Areas	Building 386	Outfall drains a dry stormwater pond which receives drainage from Building 386 and the surrounding parking area.	Closed Pipe	RCP	Circular	Double	2141: 24" 2150: 18"	-	-	-
2833	Unlikely	29-Mar-22	13:32	David Greenspan	41	26-Mar-22	15:56	0.03	69.60	38.68423445	-77.14010538	11	Roads/Parking Areas, Institutional	300 Area, Bldg 335	Outfall drains portions around Bldg 335 within the 300 area and discharges outside the fenceline.	Closed Pipe	Clay	Circular	Single	8"	-	-	-
2834	Unlikely	29-Mar-22	13:35	David Greenspan	41	26-Mar-22	15:56	0.03	69.65	38.68402256	-77.14042909	11	Roads/Parking Areas, Institutional	300 Area, Bldg 335	Outfall drains portion of roads and parking areas around Bldg 335.	Closed Pipe	-	-	-	-	-	-	-
2837	Unlikely	29-Mar-22	13:28	David Greenspan	41	26-Mar-22	15:56	0.03	69.53	38.68428499	-77.13961847	11	Roads/Parking Areas, Institutional	300 Area	Outfall drains portions of the Northern 300 Area which includes several buildings and parking/roads area.	Closed Pipe	RCP	Circular	Single	36"	-	-	-
2839	Unlikely	26-Apr-22	14:21	David Greenspan	68	19-Apr-22	0:29	0.01	181.87	38.68434761	-77.13960146	11	Roads/Parking Areas, Open Space	300 Area Visitor Center	Outfall drains portions of Gay Road, 23rd Street, and the 300 Area Visitor Center parking lot.	-	-	-	-	-	-	-	-
3590	Unlikely	17-Feb-22	14:29	David Greenspan	70	13-Feb-22	14:09	0.07	96.33	38.71689160	-77.14583206	30	Commercial	1800 Area	Outfall is adjacent to and drains the area around 6021 Abbott Road.	Closed Pipe	RCP	Circular	Single	Unknown	-	-	-
5910	Unlikely	15-Feb-22	13:28	David Greenspan	37	13-Feb-22	14:09	0.07	47.32	38.69430372	-77.13518629	22	Commercial	MDA, 200 Area	Outfall is from Underground Detention Systems from the parking lot of the Missile Defense Agency (MDA).	Closed Pipe	RCP	Circular	Single	24"	-	-	-
6130	Unlikely	3-Mar-22	12:32	David Greenspan	55	25-Feb-22	7:56	0.07	148.60	38.74727550	-77.19562844	53	Roads/Parking Areas, Institutional	NGA, Heller Road, and Geoint Drive	Outfall drains portions of Southern NGA, to include Heller Road and Geoint Drive. Outfall is located on the inside of the on-ramp to Fairfax County Parkway from Boudinot Drive outside of Fort Belvoir North Area fence line.	Closed Pipe	RCP	Circular	Single	60"	-	-	-
6204	Unlikely	3-Mar-22	12:14	David Greenspan	54	25-Feb-22	7:56	0.07	148.30	38.74872414	-77.19491120	53	Institutional	NGA	Outfall drains southern portions of NGA at Fort Belvoir North Area.	Closed Pipe	RCP	Circular	Single	15"	-	-	-
6473	Unlikely	3-Mar-22	9:27	David Greenspan	51	25-Feb-22	7:56	0.07	145.52	38.75285634	-77.19421048	53	Roads/Parking Areas, Institutional	NGA, Geoint Drive	Outfall drains portions of NGA including Geoint Drive.	Closed Pipe	RCP	Circular	Single	36"	-	-	-
6816	Unlikely	3-Mar-22	11:40	David Greenspan	54	25-Feb-22	7:56	0.07	147.73	38.75394330	-77.18746363	53	Roads/Parking Areas, Institutional	NGA, Heller Road	Outfall drains portions of Heller Road on the Eastern portion of Fort Belvoir North Area.	Closed Pipe	RCP	Circular	Single	53"	-	-	-
6830	Unlikely	3-Mar-22	11:54	David Greenspan	55	25-Feb-22	7:56	0.07	147.97	38.75552488	-77.18690070	53	Roads/Parking Areas, Institutional	NGA, Heller Road	Outfall drains portions of Heller Road on the Northeastern portion of Fort Belvoir North Area.	Closed Pipe	RCP	Circular	Triple	A: 24", B: 30", C: 24"	-	-	-
6881	Unlikely	3-Mar-22	10:46	David Greenspan	53	25-Feb-22	7:56	0.07	146.83	38.74888474	-77.20225425	53	Roads/Parking Areas, Institutional	NGA RIF, Heller Road	Outfall drains portions of Heller Road as well as the NGA Remote Inspection Facility.	Closed Pipe	RCP	Circular	Single	18"	-	-	-
6896	Unlikely	3-Mar-22	10:25	David Greenspan	51	25-Feb-22	7:56	0.07	146.48	38.75433200	-77.20251100	53	Roads/Parking Areas, Institutional	NGA, Barta Road	Outfall drains portions of Barta Road West of Accotink Creek, and comes from a Stormwater Detention Pond.	Closed Pipe	RCP	Circular	Single	18"	-	-	-
7274	Unlikely	17-Feb-22	13:29	David Greenspan	66	13-Feb-22	14:09	0.07	95.33	38.69808100	-77.13483000	32	Roads/Parking Areas, Suburban Residential	Hurley Road	Outfall from sections of Hurley Road.	Closed Pipe	RCP	Circular	Double	A: 36", B: 8"	-	-	-

Outfall Information		Conditions							Flow Characterization																				Physical Indicators at Flowing Outfalls					
Outfall ID	Illicit Discharge Characterization	Channel Shape Comment	Channel Depth	Channel Top Width	Channel Bottom Width	Submerged in Water?	Buried in Sediment?	Amount of Water/Sediment	Flow Present?	Sample Taken?	Sample Taken From?	Flow Measurement	Volume (mL)	Time to fill (sec)	Flow depth (in)	Length (in)	Width (in)	Time of Travel (sec)	Flow Rate (cfs)	Water Temp	pH	Ammonia (mg/L)	Fluoride (mg/L)	Phosphorus (mg/L)	Free Cl (mg/L)	Total Cl (mg/L)	Nitrate	Nitrite	Indicators in Flow?	Odor	Odor Severity	Color	Color Severity	Turbidity
1712	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1860	Unlikely	-	-	-	-	Not Submerged	Partially Buried	~6" sediment & leaf/tree litter accumulation	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1863	Unlikely	-	-	-	-	Not Submerged	Partially Buried	~2" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2131	Unlikely	-	-	-	-	Partially Submerged	Partially Buried	~12" sediment, ~1" water	No	Yes	Pool	-	-	-	-	-	-	-	-	44.2	7.07	0.03	0	0.04	0.07	0.07	0.5	0.011	-	-	-	-	-	-
2132	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2170	Unlikely	-	-	-	-	Not Submerged	Partially Buried	~8" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2171	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Trickle	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2173	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2200	Unlikely	-	-	-	-	Not Submerged	Partially Buried	~5" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2207	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2531	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2542	Unlikely	-	-	-	-	Partially Submerged	Not Buried	~14" water	No	Yes	Pool	-	-	-	-	-	-	-	-	35.6	6.94	0.07	0.16	0.02	0.00	0.02	0.00	0.002	-	-	-	-	-	-
2544	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2820	Unlikely	-	-	-	-	Not Submerged	2141: Not Buried 2150: Partially Buried	2150: 2" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2833	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2834	Unlikely	-	-	-	-	Not Submerged	Fully Buried	Fully buried	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2837	Unlikely	-	-	-	-	Not Submerged	Fully Buried	~29" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2839	Unlikely	-	-	-	-	Not Submerged	Fully Buried	Fully buried	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3590	Unlikely	-	-	-	-	Fully Submerged	Fully Buried	Fully buried	No	Yes	Pool	-	-	-	-	-	-	-	-	53.6	7.15	0.04	0.15	0.05	0	0.02	0.1	0.006	-	-	-	-	-	-
5910	Unlikely	-	-	-	-	Not Submerged	Not Buried	~3" leaf litter	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6130	Unlikely	-	-	-	-	Partially Submerged	Not Buried	~10" water	Substantial	Yes	Flow	Time of Movement	-	-	9.75	0	3	20.44	0.10127	48.2	6.93	0.1	0.16	0.03	0.04	0.05	0.1	0.015	-	-	-	-	-	-
6204	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6473	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.375	0	0	1.46	0.0124857	52.7	6.88	0	0.03	0.02	0.08	0.1	0.7	0.005	-	-	-	-	-	-
6816	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.375	0	0	0.81	0.0257202	47.3	7.24	0.00	0.01	0.02	0.02	0.03	0.1	0.004	-	-	-	-	-	-
6830	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6881	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Trickle	Yes	Flow	-	-	-	-	-	-	-	-	48.2	6.97	0.12	0	0.05	0	0.11	0.8	0.022	-	-	-	-	-	-
6896	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	47.8	7.08	0.12	0.03	0.03	0.05	0.06	0.5	0.054	-	-	-	-	-	-
7274	Unlikely	-	-	-	-	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.25	0	0	0.37	0.028153	46.4	7.15	0	0.2	0.05	0.01	0.01	0.8	0.007	Color	-	-	Orange	Faint color in bottle	-

Outfall Information		Physical Indicators at Flowing and Non-Flowing Outfalls						Maintenance Tracker		
Outfall ID	Illicit Discharge Characterization	Floatables	Floatables Severity	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes	Work Order Number	Date Submitted	Status
1712	Unlikely	-	-	No indicators	-	-	Outfall is an internal outlet, and it is recommended to remove from the list of outfalls. Everything was in good condition.	-	-	No Repairs Required
1860	Unlikely	-	-	Outfall Damage, Blockage	Corrosion, Tree Litter	Significant pipe corrosion, ~50% blocked with leaf/tree litter.	Outfall was in good condition but was a bit corroded, outfall is within a stream section and is difficult to see as it blends in, and was half buried under leaf/tree debris. Outfall was not flowing during the inspection but the stream channel was around the outfall.			
1863	Unlikely	-	-	Blockage	Sediment, Trash	~50% blocked with sediment and trash in flow path.	Outfall was in acceptable condition with some minor erosion as well as being 50% inundated with sediment, a bucket was in the flow path of the outfall and it was not flowing during the inspection.			
2131	Unlikely	-	-	Blockage	Sediment	~50% inundated in sediment.	Outfall is an internal outlet end of a culvert that goes underneath the access road to SM-1. This ultimately discharges to another culvert with inlet #2130 and outlet #2129. Outfall was half buried with 12" sediment and was not flowing a the time of inspection but a sample was taken from the pool.			
2132	Unlikely	-	-	Outfall Damage	Corrosion, Structural Damage	Outfall corroded with some structural damage.	Outfall is on the beach SW of Building 372 and is sitting above grade. Outfall is rusted out and has some structural damage to the pipe. No visible flow path was seen, outfall was not flowing during the inspection. This outfall is scheduled to be removed as part of the SM-1 Nuclear Reactor Decommissioning Project.	-	-	No Repairs Required
2170	Unlikely	-	-	Blockage	Sediment, Tree Litter	~50% blocked with live vegetation and sediment accumulation.	Outfall is approximately 50% inundated with sediment and is partially blocked with trees, shrubs, and live vegetation. Otherwise outfall is in good condition and was not flowing during the inspection.			
2171	Unlikely	-	-	Blockage	Tree Litter	Driftwood tree blocking outfall.	Outfall was in good condition and was flowing during the inspection but it was a trickle flow too slow to measure or sample. A large driftwood tree is blocking the outfall and needs to be removed. This outfall was considered unlikely as trickle flow was too low to indicate a presence of an illicit discharge, and outfall had no indicators of poor water quality.			
2173	Unlikely	-	-	Outfall Damage	Corrosion, Structural Damage	Corrosion and structural damage to pipe present.	Outfall is in poor condition with collapsed pipe sections, corrosion, and significant erosion. Outfall was not flowing during the inspection. Outfall discharges to beach and Gunston Cove.			
2200	Unlikely	-	-	Blockage	Sediment	~5" sediment blockage.	Outfall is in good condition and was not flowing at the time of inspection. Outfall is mostly buried under about 5" of sediment and just the top of the pipe is sticking out of the soil line. No erosion was present.			
2207	Unlikely	-	-	No indicators	-	-	Outfall was in good condition and was not flowing during the inspection.	-	-	No Repairs Required
2531	Unlikely	-	-	Outfall Damage	Structural Damage	Major erosion and structural damage to outfall.	Outfall is a culvert underneath Morrow Road, a gravel security road within the 300 area. Outfall is in poor condition with major erosion, no headwall, collapsed concrete sections, and eroded rip-rap on a steep slope. Outfall was not flowing at the inspection time.			
2542	Unlikely	-	-	No indicators	-	-	Outfall was in good condition and was not flowing during the inspection but had a pool present and a sample was taken from the pool. Outfall is difficult to get to due to steep slopes. Outfall was approximately 50% underwater.	-	-	No Repairs Required
2544	Unlikely	-	-	Outfall Damage	Structural Damage	Outfall is completely collapsed, severe structural damage.	Outfall was in extremely poor condition, with severe erosion, collapsed pipe sections, and should be noted as completely failed as it has collapsed all the way up to the manhole structure.			
2820	Unlikely	-	-	No indicators	-	-	Outfall is in a dangerous area and is inaccessible, so was assessed within the Dry Detention Stormwater pond (Stormwater Management Facility #2140). There are two internal outlet structures (2141 and 2150) as well as the riser structure (2139) which were assessed. Everything was in very good condition with no flow or standing water present.	-	-	No Repairs Required
2833	Unlikely	-	-	No indicators	-	-	Outfall in good condition but does not look like it receives much flow. Pipe was made of clay and is old.	-	-	No Repairs Required
2834	Unlikely	-	-	Blockage	Sediment	Pipe is 100% buried.	Outfall is completely buried and only locatable from the headwall that is poking up out of the ground. Outfall needs to be cleared out to allow for flow.			
2837	Unlikely	-	-	Outfall Damage, Blockage	Spalling, Cracking, Chipping, Structural Damage, Sediment	Cracking and collapse of headwall structure, ~80% sediment blockage at outfall.	Outfall is directly adjacent to Outfall 2838 (within inches). Outfall is approximately 80% buried under sediment and was not flowing during the inspection. Outfall headwall was crumbling and has collapsed.			
2839	Unlikely	-	-	Blockage	Sediment	100% buried and unlocateable.	Outfall was unable to be located, and is buried under a large amount of leaf/tree litter. The area was raked to clear leaf litter and still no outfall was located, it is suspected that the outfall is buried under sediment and will need to be excavated.			
3590	Unlikely	-	-	Blockage	Sediment	Pipe is fully buried under sediment.	Outfall is completely submerged underwater and pipe section was not visible as it is buried under sediment as well. Pipe needs to be dug out. A sample was taken from the pool at the pipe headwall. Concrete headwall in good condition but woody vegetation is coming up directly next to it.			
5910	Unlikely	-	-	Outfall Damage, Blockage	Spalling, Cracking, Chipping, Tree Litter	Cracking of headwall structure present, ~3" leaf litter present	Outfall was not flowing at the inspection time. Accumulation of leaf litter was present within outfall and rip-rap, ~3" deep. Headwall structure has some cracking and chipping but otherwise all was in good condition.			
6130	Unlikely	-	-	No indicators	-	-	Outfall was in good condition and was flowing at the time of the inspection. Outfall also had approximately 9 3/4" deep water present within the pipe that was flowing. A sample was taken from this flow but it was relatively slow. Moving water could be heard within the pipe. This outfall was considered unlikely as while flow was substantial no indicators for poor water quality existed at this outfall, and water sample results show no elevated levels. Source tracking showed an ephemeral stream that makes its way through this pipe outfall which acts as a culvert underneath the exit ramp from Fairfax County Parkway.	-	-	No Repairs Required
6204	Unlikely	-	-	No indicators	-	-	Outfall is a small pipe directly adjacent to a wetlands area. Outfall is in good condition and was not flowing at the time of the inspection. Wetlands area is in poor condition with discoloration but is not from outfall, seems to be a former landfill area.	-	-	No Repairs Required
6473	Unlikely	-	-	No indicators	-	-	Outfall was flowing at the time of the inspection and a sample was taken from the flow. Outfall was in good condition with no major issues and only some minor erosion of the pool just below the outfall headwall. No photos were able to be taken due to security of the area. This outfall was considered unlikely as while flow was moderate, no indicators for poor water quality existed at this outfall, and water sample results show no elevated levels.	-	-	No Repairs Required
6816	Unlikely	-	-	No indicators	-	-	Outfall was flowing at the time of the inspection and a sample was taken from the flow. Outfall was in good condition with no major issues present. This outfallw as considered unlikely as while flow was moderate, no indicators for poor water quality existed at this outfall, and water sample results show no elevated levels.	-	-	No Repairs Required
6830	Unlikely	-	-	Outfall Damage	Spalling, Cracking, Chipping	Some cracking of concrete around Pipe B.	Outfall consists of a triple culvert of all RCP Pipes and was not flowing at the time of the inspection. Outfall is in good condition as well as the rip-rap and receiving channel. Some cracking of the concrete around Pipe B was noted.			
6881	Unlikely	-	-	Blockage	Other	Grass litter obstructing outfall.	Outfall was almost completely obstructed with grass litter dumped from mowing operations, recommend to remove litter from flow path. Outfall was flowing at the time of inspection but flow was too low to determine flow rate and a sample was taken from the pool just below the outfall. Outfall was in good condition otherwise. This outfall was considered unlikely as trickle flow was too low to indicate a presence of an illicit discharge, outfall had no indicators of poor water quality, and water sample results show no elevated levels.			
6896	Unlikely	-	-	No indicators	-	-	Outfall was flowing at the time of inspection but flow was too low to determine a flow rate. A sample was taken from the pool just below the outfall. Outfall is extremely difficult to locate and is covered by vegetative growth, look for rip-rap in order to find the outfall. Outfall was in good condition and so was rip-rap channel from outfall. This outfall was considered unlikely as trickle flow was too low to indicate a presence of an illicit discharge, outfall had no indicators of poor water quality, and water sample results show no elevated levels.	-	-	No Repairs Required
7274	Unlikely	-	-	Benthic Growth	Orange Algae	Iron floc present.	Outfall consists of two Pipes, Pipe A which is a 36" RCP and Pipe B which is a 8" RCP. Both pipes were flowing at the time of inspection, sample and flow rate was taken from Pipe A as flow from Pipe B was too low to sample. Both pipes and headwall in good condition. Iron floc growth present from Pipe A and on concrete. Moderate erosion present going downstream. This outfall was considered unlikely as while flow was moderate, no indicators for poor water quality existed at this outfall, and water sample results show no elevated levels. Additionally, subsequent inspections of this outfall indicate it to be groundwater flow.			

2022

APPENDIX E

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) INCIDENT TRACKING TABLE

FORT BELVOIR 2021-2022 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
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. in early 2019, There were several unknown field conditions that altered the scope of work since original attempt to perform this task. Awaiting revised contract modification *June 4, 2020 received plans for the renovation of building 357 *July 27, 2020 O&M stated that they had received funding for re-routing project *May 25, 2021: AW stated that Storm water from the roof drains are not yet separated from the mechanical room floor drain piping system. This needs to occur prior to AW completing the project. Also still awaiting revised contract from DLA. *June 14, 2021 Site visit determined that rerouting has not yet been completed and that Aleut re-routing of roof drains had also stagnated. O&M Contact: Jason Chan * January 17, 2022: Follow up email sent to Fred Carter (DPW O&M AW COR), Anhhuy Huynh (DPW O&M AW COR NEW), George DiCarlo (AW), and Marvin Bowman (AW) * April 7, 2022: Follow up email sent from Ashley Clark regarding IJO #FE-18541-8-J on issue. * May 3, 2022: Jason Chan Responded, 2 IJO's put in for project NV-22030-2J (repair and connect 3 gutter downspouts to stormwater drain) and NV-22031-2J (reroute boiler/cooling tower drains to sanitary sewer).	Valid Report, Illicit Discharge, Corrective Action Required	Open	
19-09	8/10/2018	Direct Notification	4895, 4889	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. 4/26/22: Follow up email sent to ISW Program Manager about IJO. 5/27/22: DA4283 NV-22035-2J submitted for work. 6/7/22: DA4283 NV-22035-2J signed.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Open	
20-26	3/19/2020	DPW Inspector	6279	During a high priority facility inspection there was an inlet observed that had tar dumped in it. The tar was visible at the bottom of the inlet structure and had dried already.	Hospital staff has been trained on preventing and cleaning spills and about illicit dumping. They were informed to report any dumping they observe to DPW. Training on Illicit discharges should continue as per the corrective actions in the Training Plan. Workers at the hospital should be observant and report any dumping. Training Plan currently requires Training for the Hospital Medical Staff (ECOs) but does not train all Hospital Staff. Training Plan should be updated, and Operations and Maintenance Staff should be trained as they are responsible for the loading dock area. *See 2020 HPF Evaluation. 4/26/22: Reminder email sent to MS4 Program Manager.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
20-30	6/3/2020	Windshield Inspection	BMP 2535	AAFES: Discharge of a gray, turbid, liquid with a strong odor, leaking from dumpster. Liquid is a mix of liquids and garbage after being compacted. The spill flowed directly east away from the building down the ramp through a curb cut and into BMP 3251 via rip-rap pre-treatment. Liquid was thin and entered the Bioretention Unit. The liquid had a very strong rancid odor.	This is the second illicit discharge originating from this dumpster in less than a month (12-May-2020). Ensure that all leaked liquid is soaked up with absorbent pads and disposed of properly. Ensure that boom is place across curb cuts to BMP to ensure no further contamination. Area should be washed clean once all leaked liquid is soaked up with absorbent. Repair or replace leaking trash compactor. 8 June 2020: Multiple option provided to facility to prevent future discharges 12 June 2020: Pig Absorbent mats provided to facility for use 8 February 2021: Liquids are still being tossed into compactor and leaking towards SMFs 13 March 2021: Liquids are still being tossed into compactor and leaking towards SMFs. Facility personnel is provided training and additional guidance 25 March 2021: Facility is issued another corrective action and additional information/guidance on proper liquids disposal 23 June 2021: Windshield inspections showed Liquid from trash waste (suspected to be residual milk waste) was leaking from the trash compactor. 24 June 2021: Compactor was inspected and is set to be replaced by Solid Waste Contractor. The Solid Waste COR is investigating when the compactor will be replaced and getting specifications for the new compactor so that Commissary personnel will know what types of wastes can be placed in the compactor.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-15	12/28/2020	Direct Notification	3011	Landslide Old railroad tracks behind Bldg 1457. DPW Staff received a notification from a hunter of a landslide and water flowing along the old rail road tracks behind Bldg 1457. During DPW staff investigation a broken stormwater pipe/conveyance (Outfall 3011) that goes under the road was found to be broken and water is seeping through making the road unstable and causing the landslide.	Investigation Report with recommendations submitted to DPW Leadership on 30 Dec 2020. This incident was also included in the Maintenance schedule to be repaired when funding becomes available. 4/26/22 – Follow up email sent to ISW Program Manager about IJO. 5/4/22 – IJO FE-22058-2J Work Order submitted to DPW-BOID for review. 5/20/22: IJO Signed and assigned project manager of: Haider Alrubaye (703-806-3812).	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-16	12/29/2020	Windshield Inspection	Outfall 4320	While conducting windshield inspections observed improperly installed silt fences/requiring maintenance and exposed denuded area and a Chair dumped along Woodlawn Rd.	Corrective Action form was sent to the Mr. Fred Carter the COR for the project responsible for the work completed in this area. Follow Up inspection was conducted on 15 April 2021 and a follow up email was sent to Mr. Carter on 16 April 2021. The area looked to have been seeded but area was not stabilized. Slope still requires permanent stabilization by re-seeding as needed. Proper grading does not look to have been completed as a channel is already forming at the bottom of the slope. Re-inspection on 12/9/21 determined that slope is stabilized and all silt fence has been removed. Channel forming at bottom is a natural channel alongside Woodlawn Road and is to remain.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Closed	12/9/2021
21-17	12/29/2020	Windshield Inspection	BMP 7082	Silt fences left over from construction project near building 1221 and Denuded areas requiring stabilization were observed during windshield inspection. Gravel left over from construction has prevented grass growth and final stabilization. Concerning amount of erosion can be observed. Functionality of Storm water Management Facility could be affected by increasing erosion.	A corrective action form was created and submitted to the COR responsible for the project related with this finding. Silt fences were removed, however erosion concerns still remain.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Closed	12/9/2021
21-18	12/29/2020	Windshield Inspection	BMP 7260	During windshield inspection, improper silt fence installation and/or silt fences requiring maintenance were observed on the northeast side of AAFES Building 2321. Denuded areas, erosion and sediment on impervious surface. Was also observed.	A corrective action form was created and submitted to the COR responsible for the project related with this finding. During follow up inspection it was noted that silt fences were removed, however stabilization has not been reached. Follow up email sent on 1 June 2021.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Closed	12/9/2021
21-23	1/19/2021	DPW Inspector	ADFE Stream	While performing routine ESC inspections at ADFE, DPW Inspector observed Two large soil stockpiles off-site and outside of the project Limits of Disturbance. One stockpile is estimated at 100' by 50', and the other at 80' by 60'. This constitutes an estimated 9,800 square feet of disturbance outside of the limits of disturbance (LOD) of the current approved project.	The observation was documented in the ESC report and an email of noncompliance was sent to project COR/POC. A meeting was coordinated with ADFE personnel to assist in coordinating a corrective action. ESC control were implemented as soon as possible and follow up inspections were periodically conducted. - 7 May 2021: The area at the top of the hill is staring to reach final stabilization. It was recommended to remove the silt fence and re-stabilize as needed at this area. The area of the second stockpile located closer to the Culvert 3 does not show appropriate grass cover, it was recommended that this area be re-seeded and mulched again to ensure a good stand of grass is established at that location. - 10 September 2021: The soil stockpiles removed and the areas were seeded and mulched, and are fully stabilized. Awaiting removal of silt fence - 13 December 2021: Drive by inspection by David Greenspan performed, all silt fence has been removed and the area is fully stabilized, closing out the corrective action report.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Closed	12/16/2021

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
21-31	3/2/2021	DPW Inspector	3022	During quarterly inspections 1. improperly stored nitrogen fertilizer was observed 2. Improperly installed silt fence 3. High amount of trash throughout building grounds 4. Improperly stored hazardous materials that could become in contact with stormwater	AAFES personnel addressed the corrective action form items 2-4 26 March 2021: another set of improperly stored Nitrogen fertilizer was found on site. Another corrective action form was issued. During follow up inspections it was confirmed that the nitrogen fertilizer concern has been addressed, however the mismanagement of trash and materials continues. 11 May 2021: Site visit showed that issues with trash and material management persist at the facility. Noted issues included leftover stakes from silt fences, trash throughout building grounds, and improperly stored materials.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-37	3/17/2021	DPW Inspector	6284	While conducting a follow up site visit DPW inspector observed cigarette butts dumped into the storm drain and oil residue by trash compactors (ongoing issue from incident 20-26)	Hospital staff has been trained on preventing and cleaning spills and about illicit dumping. They were informed to report any dumping they observe to DPW. Training on Illicit discharges should continue as per the corrective actions in the Training Plan. Workers at the hospital should be observant and report any dumping. Training Plan currently requires Training for the Hospital Medical Staff (ECOs) but does not train all Hospital Staff. Training Plan should be updated, and Operations and Maintenance Staff should be trained as they are responsible for the loading dock area. 3/16/21: Meeting with FBCH Staff to discuss ongoing issues and 2020 HPF inspection findings. No meeting minutes were found. 4/29/21: Follow-up email sent to FBCH staff noting areas of responsibilities and facility requirements to comply with Stormwater Pollution Prevention policies and practices. 4/26/22: Reminder email sent to MS4 Program Manager.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-42	3/31/2021	Windshield Inspection	N/A	Various items were found dumped at the intersection of Kingman and Fairfax County Parkway.	3/31/21 - Corrective action from was created however no responsible party was identified. A PWO will be put in to have Aleut clean the area. 12/9/21 – Follow Up Inspection occurred, trash still present as well as additional trash found. Follow Up email sent to Ashley Clark and Sybille Vega to see about a PWO. 1/17/22 – Follow up email sent to Ashley Clark and Sybille Vega to see about a PWO. 4/26/22 – Follow up email sent to ISW Program Manager about IJO. 5/4/22 – IJO FE-22057-2J Work Order submitted to DPW-BOID for review. 5/23/22 – IJO Signed by DPW-BOID and assigned project manager: Vijay Ivatury.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-45	5/14/2021	Direct Notification	N/A	A resident reported via email to the MS4 Program Manager that there is a high amount of trash in Colyer Village behind 5823 Peterson Loop and all the way east down the ravine. It is clear that a couple of people have pushed car engines down that hill rather than dispose of them properly.	Recommendation is to update the education and outreach plan to include regular articles in the Resident newsletter to increase awareness in the housing districts and to coordinate more cleanup events with the housing community. 4/26/22: Reminder email sent to MS4 Program Manager. 5/27/22: Follow up inspection shows that trash and car engines are still located in the woods and woods line within the area.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-46	5/24/2021	Direct Notification	2986	DPW-Personnel was notified of a leaking aboveground storage tank at Building 1412. On site, DPW personnel observed a compromised 500 gallon tank containing diesel fuel. The FBFD had utilized a golf tee to plug a small hole at the bottom of the tank to stop the leakage. Granular absorbent material and spill pads were utilized to contain the spill, but there was evidence that the spill had reached the surrounding soils.	There was an adjacent stormwater drop inlet approximately 60 feet to the northeast of the compromised tank/spill area. The stormwater inlet was checked periodically for the duration of the spill event for any observable sheens. No sheens were observed, therefore, it is assumed that no fuel reached any water bodies. Spill was contained and currently remediation efforts are still ongoing. 12/8/21 - Contaminated soil has been dug up for proper disposal. Contractor set to drain pit week before Christmas 2021 and take samples, samples will be analyzed and results sent to VADEQ, VADEQ will provide direction if backfill may occur to close out. 1/17/22 – Follow up email sent to Sam Johnson 1/18/22 – Contractor unable to complete work before holidays, scheduled to start 1/18/22, should take 2-ish days to complete work. 3/17/22 – Follow up email sent to Sam Johnson 3/21/22 – Sam Johnson responded verifying site has been drained, sampled, sample results sent to VADEQ 2/15/22, VADEQ responded 2/15/22, response sent to VADEQ 3/14/22, DA4283 (FE-22032-2J) initiated to begin restoring the site and approved on 3/16/22. 4/28/22 – VADEQ notice of closure of case received from Sam Johnson. O&M currently working on restoration project hopefully to begin within the next couple of weeks.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-48	6/3/2021	Windshield Inspection	2898	Renovation Project including 206/226 - Two (2) open roll offs - Portable toilet (near building 226) located too close to curb inlet. Please ensure the toilet is located at least 25' from any curb inlet. - Refuse from the renovation project was put on bare ground and sidewalk area outside building 206 including sawdust in a hopper, sawdust on sidewalk and unsecured trash. Campus Parking areas Outside Bldg. 209 and 231: Dumpsters found with open doors or lids.	DAU site manager changed policy to cover all roll offs. As of 16 July, roll off were open during the day but had tarps sitting next to them to covering at the end of the work day. Portable toilet have been relocated to other side of the building and not near storm inlet.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	7/16/2021
21-49	6/3/2021	Windshield Inspection	N/A	Two (2) roll offs that were not in use and not covered at bldg 220 and 221.	As of July 16, 2021: No responsible party has been found 3/17/22: Follow up inspection noted that dumpster is still there, no personnel on site.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Open	
21-53	6/22/2021	DPW Inspector	7252	On Doerr Road near Hospital: Curb inlets adjacent to tree filters clogged with sediment and	Aleut addressed the clogged inlets and had them cleaned out on July 1, 2021.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	7/6/2021
21-54	6/22/2021	Windshield Inspection	2934	Trash (Mattresses) left outside dumpsters in small parking area near ball fileds on 16th street (Thrift Store)	Thrift Store dumping is an ongoing issues and is being addressed as an ongoing campaign to stop dumping on post. Dumped materials were picked up and sign is in place prohibiting dumping.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Closed	2/14/2022
21-55	6/23/2021	Windshield Inspection	BMP 2535	PX trash compactor had trash packed under that had come out through chute.	Pursue obtaining additional trash dumpsters and/or additional compactor pick-ups through AAFES contracting. Instruct personnel to not overfill compactor. June 30 2021: Request sent to Solid Waste COR in O&M 1/17/22: Follow up email sent to Sybille requesting email, as well as Vijay about what is occurring. 1/21/22: Follow up inspection shows area is still overflowing with lots of trash and has not been cleaned up.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Open	
22-01	7/1/2021	American Water	N/A	American Water was informed of a water leak at building 325t on 01 Jul 2021 around 7am. The source of the water is from the meter crock for the building (1 and half inch line). American Water contacted the operations manager (Chris Jones) that water would need to be shut for a few hours while repairs are made. It is unknown how long the water has been leaking. Estimated around 500 gallons (rough estimate as no length o time known). None was seen entering state waters or storm drains. No DEQ report is necessary.	Repair of the small service line completed on 7/1/21, no DEQ report needed.	Valid Report/No Illicit Discharge/corrective actions Taken	Closed	12/9/2021
22-02	7/26/2021	American Water	3477	Water Main break at the parking lot of building 2113. An estimated 2000 gallons total leaked into curb inlet 3477. The stormdrain appears blocked with mud/other debris. American water stated that they believe no chlorinated water was not seen entering state waters.	Waterline was repaired on 07/27/2021, no DEQ report needed	Valid Report/No Illicit Discharge/corrective actions Taken	Closed	12/9/2021
22-03	8/9/2021	Direct Notification	N/A	Contractor operating POC hot barricade and damaged oil pan that leaked within the museums parking lot	Hazwaste contractors arrived on the scene and used granular absorbent material to clean up the oil and swept up then disposed of the collected spill materials.	Valid Report/No Illicit Discharge/corrective actions Taken	Closed	8/9/2021
22-04	8/31/2021	Direct Notification	256	Soil stockpile at Dogue Creek Bridge Project reported to have the potential for erosion into Dogue Creek, possible contaminated soils.	N/A, soil stockpile was adequately protected with silt fence and covered with impermeable liner, contractor told to continue to keep pile covered until soil tests came back and soil stockpile could be removed for disposal.	Invalid Report/No Illicit Discharge/No Corrective Action Required	Closed	8/31/2021

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
22-05	9/13/2021	Windshield Inspection	N/A	Abandoned silt fence discovered running the length of Totten Road adjacent to the East	2021-09-13 - PWO Request Email sent to Ashley Clark and Sybille Vega. 2021-09-14 – USACE expressed concerns over POL in the area as well as stating that Mr. David Greenspan said Silt Fence may remain. 2021-09-16 – POL POC provided to USACE for putting together HAS 2021-12-08 – Follow up with USACE Brenda Barber 2022-01-17 – Follow up with USACE Brenda Barber again 2022-01-18 – USACE Responded saying that silt fence is likely to occur in February 2022-01-28 – Follow up inspection shows silt fence has been removed but some piles of leftover trash still remain to be cleaned up. 2022-02-02 – Follow up inspection shows all silt fence removed including piles, issue may be closed out.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	2/2/2022
22-06	9/15/2021	Windshield Inspection	N/A	Excess trash noted at dumpster at Markham School trash and large debris not within dumpster and blowing into woods, likely from illegal dumping in the area.	2021-09-16 – Notification email sent to Vijay Ivatury and Iraida Declet regarding excess waste. 2021-09-17 – Vijay Ivatury noted that contractor is not responsible for cleaning up excess trash. 2022-01-17 – Email sent to Vijay Ivatury asking what can be done, if an IJO can be submitted. 2022-01-24 – Email received from Iraida Declet stating all large items had been removed from the area. 2022-01-25 – Follow Up Inspection determined all items had been removed, issue can be closed out.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	1/25/2022
22-07	9/15/2021	Windshield Inspection	N/A	Power pole installation work off Mt. Vernon Road adjacent to Bldg 936 for Dogue Creek Village Renovation project, leftover tire tracks and denuded ground were not stabilized or graded out before completion of power pole installation, work associated with DIG Permit 21-181.	Area was graded out and seeded/mulched as appropriate by Robert Randich and crew, corrective actions verified to have been completed by David Greenspan on 12/13/21.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	12/14/2021
22-08	9/24/2021	Windshield Inspection	N/A	Two issues noted: several sand bags that have broken and come into contact with stormwater, as well as bed and other materials dumped in and around the dumpster with dumpster being open.	2021-09-27 – Notification email sent to Sybille Vega 2021-12-07 – Follow up email sent to Sybille Vega 2021-12-08 - Sybille Vega Stated Wells Field House has Unknown POC's 2022-01-21 – Follow up inspection shows pallet and mattress still next to dumpster as well as sandbags and materials stored outside, both issues still not cleaned up. Tried to enter Well's Field House to find any personnel; all doors on building locked and unable to enter.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	2/14/2022
22-09	9/25/2021	American Water	N/A	Notified by Samuel Ford that Bldg 1455, 1465, and the O-Club had watermain breaks. Water was shut off to these buildings and repaired by Aleut. Staff reported none entering state waters or anything like that.	2021-12-07 - Follow up email sent to Samuel Ford to request reports and close-out information 2012-12-08 – Notification from Samuel Ford that this issue has been addressed and no report was sent to VADEQ as it was under the threshold	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	12/8/2021
22-10	9/27/2021	Windshield Inspection	N/A	Two issues noted: pile of parts from golf cart stored outdoors, sand stockpile outside Bldg 2990 too large to be kept undercover and overflowing.	2021-09-27 – Notification email sent to Sybille Vega. 2021-12-03 – Drove by and determined that golf parts have been cleaned up but sand stockpile is still overflowing. 2021-12-07 – Follow up email sent to Sybille Vega. 2021-12-07 – Received Golf course POC's from Sybille Vega, notification email sent to golf course POC's. 2022-01-17 – Follow Up email sent to Golf Course POC's, no response from previous email at all. 2022-01-19 – Follow up inspection showed that golf parts had all been cleaned up and stockpiles organized to be within the overhang and covered by the facility, issue is now closed.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	1/19/2022
22-11	10/15/2021	Windshield Inspection	N/A	Project discovered at intersection of Putnam Road and Beach Road, construction of astroturf training area approximately 2,636.75 sq.ft. in disturbance without any DIG Permit on file for construction. Turned out was in correlation with IJO NV-00020-1J put in by Glenda Dyott and no DIG Permit was filed, determined that construction was less than 2,500 sq.ft. in the end.	2021-10-15 – Notification email to 300 Area POC's (Chris Jones, Chris Herrmann) 2021-10-15 – 300 Area POC's responded with IJO work order for proof of submission 2021-11-03 – Chris Herrmann signed completed Corrective actions report	Invalid Report/No Illicit Discharge/No Corrective Action Required	Closed	11/3/2021
22-12	12/16/2021	American Water	N/A	~0630 a main break was reported behind Building 55 off Fairfax Drive. The main has been isolated as crews await to make repairs. The main is behind houses and no service lines are affected with an outage. Water was reported by AW staff seen going into the woods and street, but the storm drains were blocked up so no chlorinated water was seen entering state waters and no VADEQ report is needed.	12/16/21 - Waterline has been turned off but does not result in any loss of service to nearby buildings, DIG Permit put in with DPW for repairs. 12/29/21 - Repairs incomplete as of yet, AW waiting on DIG Permit to be issued from DPW. 1/28/22 - Repair of service line needs to be completed, area is currently dug up but not protected and needs to have silt fence installed as well as a sediment filter bag installed on the pump. Repairs started a couple of days ago as DIG Permit took a long time through DPW. Repairs were halted due to a large number of unmarked utilities in the area. 2/10/22 – Follow up inspection shows repairs have been completed, but area remains to be seeded and mulched to stabilize. 2/17/22 – Follow up inspection shows area has been seeded and mulched with curlex, and may be closed out.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Closed	2/18/2022
22-13	12/16/2021	American Water	N/A	Water leak reported in Woodlawn Village, Building 2759 off Stable Court around 0100. Water was turned off to the building for repairs.	12/29/21 - Repairs incomplete as of yet, AW waiting on DIG Permit to be issued from DPW.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	12/16/2021
22-14	12/16/2021	American Water	N/A	Water leak reported at Bldg 366 off Wilson Road around 0630. Water was turned off to the building for repairs.	1/28/22 - Repair of service line needs to be completed, area is currently dug up but not protected and needs to have silt fence inst	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	12/29/2021
22-15	12/29/2021	Direct Notification	2083	Spill occurred around 0800 at the Aleut Maintenance Shop, Building 1420. Spill occurred within the maintenance bay and eastern side of the building along Jackson Loop. The spill was hydraulic fluid and gasoline, approximately 2-3 gallons worth. The source was a contractor maintenance truck which had a severed hydraulic line (hydraulic fluid) and 2 backpack leaf blowers which tipped over (gasoline). From the photographs, the spill came outside of the building and came very close to an area inlet, structure 2083. It was reported that no sheen was seen within this structure and this was double checked.	2/10/22 – Follow up inspection shows repairs have been completed, but area remains to be seeded and mulched to stabilize.	Valid Report/Potential Illicit Discharge/Corrective Actions Completed	Closed	12/29/2021
22-16	1/10/2022	Direct Notification	69	Sanitary Sewer Overflow (SSO) occurred near Lift Station (LS) 1575 in GW Village, leak from force main. Grounds surrounding already wet from rains and snow melt making it difficult to estimate leakage, but it is estimated that the pipe leaked a hundred to several hundred gallons into the grass. Bypass operations put in place immediately once it was determined it was an SSO as well as measures to protect storm drains. Contractor stated that they were unsure if it made it into the storm drains or state waters. Contractor has filed a DEQ Pollution Report with incident #302358, there may be a 5-day report for this incident as well.	American Water is digging up the Sanitary pipe that burst for repair. Pipe was stated to be approximately 12' deep so when inspection was performed, they were waiting on metal trench walls for safety reasons. Currently, the site is being cleaned up and fortified with a sump being used after initial pump and haul operations. Adjacent inlets and manholes for the Underground Detention System have been protected with straw bale inlet protection as well as silt fence being installed on the downslope side of excavation activities. American Water field personnel (Duke) stated that clean up activities and restoration of area with seed and mulch should be completed no later than Thursday, 1/13/22. A follow up inspection shall occur at that point. 1/21/22 – Follow Up Inspection noted that the area has been fully repaired, backfilled, seeded and mulched. 5 day report received from AW on 1/13/22 as well. Issue may be closed out.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	1/21/2022
22-17	1/12/2022	Direct Notification	N/A	Approximately 5+ gallons of JP-8 Helicopter Fuel were leaked on helicopter parking spot #10 at the alpha ramp at DAAF. Spill occurred due to overfilling of tank causing JP-8 Helicopter Fuel to leak onto concrete surface below, No fuel entered soils or wateways please see subsequent Full Spill Report for a timeline of events, photo log and contact information for responders.	The fire department responded to the scene and laid down granular absorbent material to absorb excess JP-8 Helicopter Fuel. Fire Department left the scene after laying granular absorbent material stating that only DPW could clean it up. Aleut rover was sent to the scene to clean up absorbment material, but by the time they arrived the absorbent material had already been swept up (it is unclear who may have done this). A follow-up inspection occurred the following morning determined that all granular material had been swept up and disposed of, and that any remaining JP-8 Helicopter Fuel that was not absorbed had evaporated.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	1/13/2022
22-18	1/17/2022	Direct Notification	1170	A large tree fell on a 12" Aerial Sewer main heading from Bldgs 80 and 81 to LS 97, breaking the pipe and spilling raw sewage out into the tributary leading to the Potomac below. Area is hazardous with steep slopes. Odor and grey matter present in tributary up to larger tributary, odor present but residually decreasing the further away from breakage point. No fish or wildlife seen affected or killed, tadpole activity remained in stream.	Bypass operations put in place by Kelvic and will remain in place until final repairs can be completed. SSO was stopped on 1/18/22 @0240 approximately. VADEQ pollution report submitted under ID#302514. VADEQ forwarded information to Virginia Department of Health (VDH) due to amount and nature of spill. 3/17/22 – A follow up inspection verified that repairs are complete and all disturbed area has been seeded and mulched accordingly to stabilize, this issue may now be closed out.	Valid Report/Illicit Discharge/Corrective Actions Required	Closed	3/17/2022
22-19	1/19/2022	Direct Notification	N/A	During an underground storage tank (UST) refueling operation at the Well's Field House, Building 1810, an overflow of approximately 2 gallons of heating oil occurred on the grassy area adjacent to the fuel port.	Spill absorbent pads were placed on scene to contain the spill which were then placed in a 55-gallon drum for disposal. After initial field investigation by Ashley Clark McMahon, oil sheen as well as odor was still detectable and Base Operations Contractor was notified that further cleanup efforts were required. Approximately 1-2" of contaminated soil was removed from the spill area and placed in a 55-gallon drum for disposal. Backfill has not yet occurred and is requested to occur as soon as possible to include seeding and mulching of backfilled area. 1/21/22 – Follow up inspection shows backfill, seeding, and mulching has not occurred yet. All affect soil has been removed and there is no residual oil smell or sheen on location. 1/25/22 – Notification email received from Hayden Dermanelian with Aleut that the area had been backfilled, seeded and mulched to stabilize. A follow up inspection shortly afterwards confirmed and documented this, and the issue may now be closed out with no further actions necessary.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	1/25/2022

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
22-20	1/25/2022	American Water	N/A	Water main break occurred on the backside of the NMUSA building adjacent to the loading bay. Approximately 2,500 gallons of water were estimated to have discharged from the break and made it to an unnamed tributary to Accotink Creek just SE of the NMUSA Building. Water main has been shut off and an emergency DIG Permit has been submitted for repairs. A VADEQ pollution report was submitted (#302674) and a 5-day report will also be submitted for this issue.	Water main has been shut off for repairs to be completed. Estimated that repairs will be completed within one day. 1/28/22 – Follow up inspection confirmed that the area has been fully repaired, seeded, and mulched with the use of erosion control matting to stabilize. This issue may now be closed out. The VADEQ 5-Day Report has also been received and is part of the documentation.	Valid Report/Illicit Discharge/Corrective Actions Required	Closed	1/28/2022
22-21	2/1/2022	Direct Notification	N/A	Notified by Hayden Dermanelian & Kathryn Weisbrodt of work being performed at Bldg 1462. The work apears to be digging to install wiring in the front of the building going under two walkways without any DIG Permit on file for construction.	Silt fence should be installed immediately on the down-slope side of any trenching activities. Work should halt until a DIG Permit is submitted to The Directorate of Public Works (DPW) and approved. Work may resume once a DIG Permit is obtained and verified. 3/9/22 – DIG Permit 22-081 submitted for work, this issue may now be closed out.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	3/9/2022
22-22	2/1/2022	DPW Inspector	N/A	Trench work being done to tie-in building 805 downspouts to storm drains. Work associated with DIG Permit #22-025. POC is Steve Waldron with R&S Services, LLP, at 703-479-2587 or support@randsservices.net. Work has no protection (silt fence or inlet protection) installed.	Install silt fence on downslope side of all trenching or earth disturbance activities. Silt fence must remain in place until full stabilization is achieved that is defined as uniform, mature enough to survive, and inhibit erosion. Inlet protection must also be installed on any operational storm sewer inlets that receive drainage from the project area. 2/4/22 – Follow up inspection confirmed that area has had proper erosion & sediment control measures installed corrective action may be closed out.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	2/9/2022
22-23	2/10/2022	Windshield Inspection	N/A	A tipped over grease disposal bin was noted outside of the Bowling Alley, Building 1199, in the parking lot just North of the Building.	The grease disposal bin needs to be placed back upright and kept that way. 3/17/22 – A follow up inspection shows that the grease bin has been righted and is properly closed, this issue may now be closed out.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	3/17/2022
22-24	2/10/2022	Windshield Inspection	N/A	Excessive dumping and trash buildup was noted at the parking lot for Building 1099. This parking lot is just South of the Building.	All trash needs to be removed from the area and disposed of properly. The dumpster needs to be placed back within the designated containment area.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	2/14/2022
22-25	2/11/2022	Windshield Inspection	16	Silt fence present at interesection of Patrick Rd. and Woodlawn Dr. leftover from previous inspection on 4/27/202, follow up inspection on 2/11/22 confirmed it was not there any more and this issue may be closed.	Remove leftover dilt fence and dispose of properly.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	2/11/2022
22-26	2/11/2022	Windshield Inspection	1715	A silt fence is leftover around a culvert inlet just southwest of Building 337 off of Wilson Road. This is a re-issue report from a leftover report dated 5/14/2020.	Ensure that the leftover silt fence is removed and disposed of properly.	Valid Report/No Illicit Discharge/Corrective Actions Required	Open	
22-27	2/11/2022	Windshield Inspection	N/A	One section of silt fence was leftover along Gorgas Road, vegetation and debris are within the silt fence, all requiring clean up. This was a leftover open corrective action from an original report dated 3/26/2021. The original report describes two sections of silt fence, only one remains.	The leftover silt fence needs to be removed and disposed of properly along with debris. Vegetation should be mowed and returned to a managed turf state. 4/26/22: Follow up inspection confirms that the silt fence has been removed and this issue may now be closed out.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	4/26/2022
22-28	2/14/2022	Various	N/A	Various instances of trash being dumped at dumpsters around Fort Belvoir from illegal dumping activities. There is no avenue for residents to dispose of large trash items, and so an increase of illegal dumping has been seen across the installation. Rather than open up an individual report each time this occurs, this Illicit Discharge Tracking # shall be utilized to compile any illegal dumping at dumpster issues seen.	All excess trash outside dumpsters needs to be removed and disposed of properly.	Valid Report/No Illicit Discharge/Corrective Actions Required	Open	
22-29	2/22/2022	DPW Inspector	N/A	An estimated 10-15 gallons of brick whitewash (a mixture of white latex paint and water) was dumped just outside the fenceline of the Dogue Creek Village Renovations project in association with the project. This mixture was sprayed into the woods on top of plant and leaf material sometime within the past week or so as it was already dried.	Ensure that all affected plant material, leaf litter, and soils are removed and disposed of properly. The area will need to be permanently seeded and mulched as well to restore to a vegetated condition. 2/24/22 – Verification photos and narrative description of cleanup sent by contractor, issue may now be closed out.	Valid Report/Illicit Discharge/Corrective Actions Required	Closed	2/25/2022
22-30	2/28/2022	Windshield Inspection	N/A	An area of denuded ground remains just East of the intersection of Franklin Road and Goethals Road at approximate GPC coordinates 38.71521 and -77.14288. A DIG Permit was not found in association with this work, but Mastec (Robert Randich, robert.randichsr@mastec.com, 703-772-5645) stated work was performed in this area mid-2021.	The denuded area needs to be re-seeded and mulched to stabilize. Recommend surface roughening of soil to ensure better seed germination as area is relatively flat and compacted. 3/8/22 – Email provided showing area has been re-seeded and mulched to stabilize by contractor, issue may now be closed out.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	3/9/2022
22-31	3/4/2022	Direct Notification	N/A	An SSO occurred at a manhole within the 300 area that was reported around 1120 by Building 330. Teams sucked out the overflow and within the manhole and were able to jet and clear the blockages (suspected rags as culprit). Team confirmed that all discharge was on the street and none entered state waters, soils, or any storm drains. SSO is estimated at 15-20 gallons total. Manhole will be kept on a watch list as the reason for the SSO was not fully determined.	Manhole and overflow was vacuumed out to remove any constituents and the line was jet cleaned to clear the blockages. Area was cleaned up and the manhole has been put on a watch list for several weeks as the exact cause of the SSO was unidentifiable.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	3/4/2022
22-32	3/23/2022	Direct Notification	N/A	Multiple soil stockpiles, asphalt/debris piles located in a parking lot between Buildings 1462 and 1481. The stockpiles are at approximate GPS Coordinates 38.70603, -77.15045. It is unknown who the stockpiles belong to.	3/23/22 - Report written and distributed to DPW BOID and O&M to determine stockpile owner or origin. 5/3/22 – Windshield Inspection shows a construction vehicle belonging to R&S Services (703-867-2569), report updated with additional photographs and sent to Steve Waldron (gswald@aol.com and support@randsservices.net), owner of R&S Services. 5/27/22 - Follow up inspection conducted on 5/27/22 @1233, temperature was around 67 degrees F, shows that the area has been cleaned up with all stockpiles removed, see photos.	Valid Report/No Illicit Discharge/Corrective Actions Required	Closed	5/27/2022
22-33	3/31/2022	Direct Notification	N/A	A hydraulic fluid spill occurred at the activated barrier just outside of Farrar Gate to Davison Army Airfield. The spilled material is Envirologic 132 Hydraulic Fluid (see attached SDS). The rupture occurred at the control box for the activated barrier and spilled hydraulic fluid into the grassy area adjacent as well as filled up the observation well within the activated barrier.	Area will need to have all affected soils removed and disposed of properly. Hydraulic Control Station will need to be repaired. Additional hydraulic fluid in activated barrier will need to be removed and disposed of properly. All disturbed areas will need to be seeded and mulched to re-stabilize. 4/1/22: An emergency DIG Permit 22-111 has been submitted to address this issue. The area has absorbent booms installed downhill in the flow path and also the area has been covered with tarps to prevent contact with rainwater until the DIG Permit is approved. 5/3/22: Spill Report from Mr. Doo Lee (DPW Haz Waste Program Manager) received. Spill not yet cleaned up.	Valid Report/Illicit Discharge/Corrective Actions Required	Open	
22-34	4/4/2022	Direct Notification	N/A	An SSO occurred off of Morrow Road (and close to Theote Road) from a manhole in an estimated amount of 35 gallons. Illicit Discharge did not come in contact with state waters or any stormwater drains.	The spill was caught early on and cleaned up with the use of a vacuum truck to remove any contaminants. The line was blocked due to roots from nearby vegetation and was jetted to clear out by 1330 on 4/4/22. Manhole has been placed on hot-list for increased inspections to confirm that jetting has corrected the issue. A VADEQ pollution report was filed as a precautionary measure, report #303976, VADEQ confirmed that email of incident would count as the 5-day report and no further action was necessary.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	4/7/2022
22-35	4/8/2022	Direct Notification	N/A	Discharge is an SSO which occurred adjacent to Building 330. Staff was notified at 1252 and were able to clear the blockage by 1320. Rags and flushed paper towels were apparent in overflow in an estimated amount of 20 gallons. No discharge made it to any state waters or stormwater sturctures as it was all contained to asphalt/cement.	The SSO was caught quickly as notification for cleanup was provided in a timely manner and response occurred immediately. Mr. Duke talked to building staff about not flushing paper towels and the building has agreed to put up signs. Manhole has been placed on a hot list for weekly inspections as well as schedule to be camera inspected the week of 4/11/22. All SSO discharges were vacuumed up with a vac truck and the area has been washed down. VADEQ report was not necessary as the spill was contained to all cement/asphalt and no waterways or pervious surfaces, but was filed anyways with Report #304057.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	4/8/2022
22-36	4/11/2022	DPW Inspector	1894	A broken auto flusher was discovered at Building 392, flusher was malfunctioning and letting water through even when closed. No fish kills or wildlife impact seen. An estimated 10,000 gallons was released from the hydrant as a rough estimate. Flushing taking place too often at every couple days, worn area with partial erosion towards the inlet from flushing water, and port near fire hydrant constantly leaking.	A DEQ potable water discharge report was filed, report #304089. The fire hydrant experiencing this issue has been closed and the auto-flusher will not be used until a functional replacement unit is put into place. American Water staff will increase inspections of all other auto flusher units.	Valid Report/Illicit Discharge/No Corrective Actions Required	Closed	4/14/2022
22-37	4/20/2022	Direct Notification	338S/3349	Heavy flow of water seen near the intersection of Foster Road and Goethals Road, suspected water main break. Upon investigation, water was coming from hydrant flushing activities, please see investigation findings below for additional information. Water was flowing down Foster Road and Goethals Road as well as entering an inlet adjacent to Building 2292.	No corrective actions taken, none required, discharge is permitted as a diffuser was in place along with dechlorination tablets in use for flushing activities.	Invalid Report/No Illicit Discharge/No Corrective Actions Required	Closed	4/22/2022
22-38	5/16/2022	Direct Notification	N/A	A hydraulic leak of less than 3 quarts occurred at the AMSA 91 Shop. It was not reported where the location of this spill was and no pictures were included with the description. It was reported that 98% of the spill was cleaned up and the spill occurred from a Tactical Vehicle Hydraulic System.	Spill was immediately contained and cleaned up. S ite staff was briefed that any adjustments or part replacements are to occur within the shop building and not exterior to the building.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	5/17/2022
22-39	6/8/2022	Windshield Inspection	4699	Water being discharged to storm sewer area inlet 4699 behind the DAAF Fire Station during a Windshield Inspection.	After talking with the Fire Department personnel, Captain Burch, it was determined that the Fire Department was discharging an overhead turret on a fire truck to test the unit and ensure it was working. This test was performed and water was sprayed over a grassy area to the NE of the inlet in question, which is allowed. There was some residual water that came off the truck and from the hose from the fire hydrant they were hooked up to that made it to the area inlet. No illicit discharge.	Invalid Report/No Illicit Discharge/No Corrective Actions Required	Closed	6/9/2022

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
22-40	6/14/2022	Windshield Inspection	N/A	Secondary containment of Ice Brining solution has corner folded over, containment not adequate. Storage of 31 pallets of Safe'n Sure Ice Melt bags in open, uncovered, and unprotected area. Salt stockpile uncovered and leaking green/yello solution, needs to be covered and protected and leaked chemicals cleaned up with spill kit and disposed of properly.	Secondary containment for the Ice Brining solution must have concrete block and traffic cone removed and the secondary containment fixed to ensure no leakage or spillage of rainwater may occur. Storage of 31 pallets of Ice Melt bags must be either moved to a covered and protected area or covered with a tarp to prevent any potential contact with rainwater. Salt stockpile must be covered and protected adequately, all leaked chemicals must be cleaned up with a spill kit and disposed of properly as hazardous waste. 6/23/2022 – All solid salt has been removed from the area, the berm around the brine tanks has been fixed, and the spill area has been cleaned up (see photos).	Valid Report/Illicit Discharge/Corrective Actions Required	Closed	6/27/2022
22-41	6/14/2022	ORI	984	Suspected illicit connection leading ultimately to Outfall 984. An unknown 4" pipe is seen coming into Area Inlet 988, not shown in Stormwater map book, suspected to come from Building 247 roof drains. This outfall was screened as part of the 2020-2021 Outfall Reconnaissance Inventory and this incident was discovered during a dry weather screening.	2/15/22: During the first ORI inspection conducted on 2/15/2022 @1337, A sample was collected from the flow and Hach Water Testing was used to test for pH, Ammonia, Free/Total Chlorine, Nitrates, Nitrites, Fluoride, and Phosphates. Tests showed elevated levels of Ammonia, Phosphate, and Fluoride in the sample (pH 7.34, Ammonia 0.65 mg/L, Free Chlorine .00 mg/L, Total Chlorine .15 mg/L, Nitrate 0.3 mg/L, Nitrite 0.006 mg/L, Fluoride 0.48 mg/L, Phosphate .46 mg/L), but none of the tests showed an exceedance of the illicit discharge threshold. 6/14/22: A trunk investigation was conducted on 6/14/22 @1340, temperature was 79 degrees F and there was 0.49" of rainfall within the past 48 hours. The entire storm drain system leading to Outfall 984 investigated which included structures 984 through 993. Structure 984 was found to be flowing. No noticeable roof drains were seen on the exterior of Building 247 and the roof is flat, so it is believed that if roof drains exist they are inlets on top of the roof that go through the interior of Building 247. Water was seen flowing into area inlet 993 during the inspection from an unknown 4" pipe, see Photo 3. During the past 2020-2021 ORI an inspection of area inlet 988 by a former MS4 Program Manager, Yari Chiro, indicated that an unknown pipe was located flowing into area inlet 988. During this initial field investigation, it was field verified there was no additional pipe seen within this area inlet 988. It is believed that this was a mistake, and Yari Chiro meant area inlet 993. It should also be noted that this unknown pipe is not pointing directly at Building 247, but rather across the street towards Building 269.	Valid Report/Illicit Discharge/Corrective Actions Required	Open	
22-42	6/16/2022	Direct Notification	N/A	Valley Protein, a kitchen subcontractor for the DLA Building 2462, had a broken line which leaked used kitchen oil within DLA going outside of Fort Belvoir for a long ways. It is estimated that approximately 100 gallons of used cooking oil was leaked over the entire distance of approximately 3.86 miles on roadways. No oil made it to any storm drains that were seen, however, oil was tracked on the roadways from subsequent driving. POC: Mike Watts (571-643-1490, mike.watts@dla.mil).	It should be noted that the spill did not start at the pickup area, and the truck responsible for the spillw as already leaking and leaving a trail when it came in Gate 1 at DLA. After speaking with the Petroleum Management and Spill Response Program Manager, Sam Johnson (703-806-3694 or samuel.h.johnson46.civ@army.mil), it was determined that not much could be done regarding cleanup at this time as the leak was relatively spread out and tracked thin across the road. As such, this report shall be closed out with no further action necessary.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	6/27/2022
Total	**61**					**61**	**61**	

2022

APPENDIX F

TRAINING LEVELS FROM FORT BELVOIR TRAINING PLAN, DATED MAY 2019

FORT BELVOIR 2021-2022 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

Fort Belvoir Stormwater Pollution Prevention Training Plan

LEVELS OF TRAINING

The Table below outlines the Levels of Training conducted by DPW Environmental Division Stormwater Personnel. See Section 4 of the Training Plan for training requirements for all Fort Belvoir personnel applicable to Stormwater Management. All personnel may receive Level 6 Training at any time.

Levels of Training

Level of Training	Type of Training	Content of Training
1	ISW SWPPP	▪ Stormwater Basics ▪ Applicable Regulations ▪ ISW Basics ▪ Stormwater Impacts on Waterways ▪ SWPPP Basics ▪ Illicit Discharge Basics ▪ Applicable TMDLs ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Inspection Information ▪ Applicable Structural and Operational Controls ▪ Erosion & Sediment Control Basics ▪ Stormwater Sampling/Monitoring Information ▪ Required Reporting
2	MS4 SWPPP	▪ Stormwater Basics ▪ Applicable Regulations ▪ MS4 Basics ▪ Stormwater Impacts on Waterways ▪ SWPPP Basics ▪ Illicit Discharge Basics ▪ Applicable TMDLs ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Inspection Information ▪ Applicable Structural and Operational Controls ▪ Erosion & Sediment Control Basics ▪ Stormwater Monitoring Information ▪ Required Reporting

Level of Training	Type of Training	Content of Training
3	General Stormwater Pollution Prevention	▪ Stormwater Basics ▪ Applicable Regulations ▪ Stormwater Impacts on Waterways ▪ Illicit Discharge Basics ▪ Applicable TMDLs ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Applicable Operational Controls ▪ Erosion & Sediment Control Basics
4	Illicit Discharge	▪ Illicit Discharge Basics ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Procedures for Reporting Illicit Discharges
5	Pre-Construction	▪ Stormwater Basics ▪ Applicable Regulations ▪ SWPPP Basics ▪ Erosion & Sediment Control Basics ▪ On Site Sediment and Erosion Control Requirements ▪ Materials Storage Information ▪ Illicit Discharge Basics ▪ Industrial Stormwater Outfall Information ▪ Site Closure Procedure
6	Corrective Action	▪ Stormwater Basics ▪ Applicable Regulations ▪ Stormwater Impacts on Waterways ▪ Illicit Discharge Basics ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Applicable BMPs ▪ Erosion & Sediment Control Basics ▪ Corrections to specific reported unauthorized action(s)