



U.S. Army Garrison  
Fort Belvoir, Virginia

# Municipal Separate Storm Sewer System (MS4) Program Plan

For

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



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**December 2020**

Regulated Small MS4:

Fort Belvoir Military Installation  
Fairfax County, Virginia

Regulated Small MS4 Operator:

U.S. Army Garrison, Fort Belvoir  
9820 Flagler Road  
Fort Belvoir, Virginia 22060

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## List of Acronyms

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

BMP	.....	BEST MANAGEMENT PRACTICE
BRAC	.....	BASE REALIGNMENT AND CLOSURE
CWA	.....	CLEAN WATER ACT
DAAF	.....	DAVISON ARMY AIRFIELD
DEQ	.....	DEPARTMENT OF ENVIRONMENTAL QUALITY
EPA	.....	ENVIRONMENTAL PROTECTION AGENCY
FBNA	.....	FORT BELVOIR NORTH AREA
ISSA	.....	INTER SERVICE SUPPORT AGREEMENT
ISW	.....	INDUSTRIAL STORMWATER
HECSA	.....	HUMPHREY’S ENGINEERING CENTER SUPPORT ACTIVITY
MS4	.....	MUNICIPAL SEPARATE STORM SEWER SYSTEM
NPDES	.....	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
SSO	.....	SANITARY SEWER OVERFLOW
TMDL	.....	TOTAL MAXIMUM DAILY LOAD
USAG, FB	.....	UNITED STATES ARMY GARRISON, FORT BELVOIR
VADEQ	.....	VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
VDOT	.....	VIRGINIA DEPARTMENT OF TRANSPORTATION
VPDES	.....	VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
WLA	.....	WASTE LOAD ALLOCATION

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## **1. PLAN PURPOSE AND REVISIONS**

Fort Belvoir has been authorized to discharge stormwater from its municipal separate storm sewer system (MS4) by the Virginia Department of Environmental Quality under the Virginia Pollutant Discharge Elimination System (VPDES) General Permit for Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. The permit requires that the permittee develop, implement, and enforce a MS4 program designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP) to protect water quality and to satisfy the appropriate water quality requirements of the State Water Control Law and its attendant regulations (VPDES MS4 Permit#VAR040093, Part I.B.).

This plan details the framework for a comprehensive program to minimize stormwater pollution by identifying the Best Management Practices (BMPs), measurable goals, and responsible parties for achieving compliance in accordance with 9VAC25-890-40, Section IC of the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (9VAC25-890-40 General Permit). Unless specifically noted, the minimum control measures described within this stormwater program plan will be implemented on a regional scale at the properties owned and operated by the U.S. Army Garrison Fort Belvoir (USAG, FB) (Fort Belvoir Main Post, Fort Belvoir North Area).

Revisions to this Program Plan are expected throughout the life of the permit as part of the iterative process to reduce pollutant loading and protect water quality to the maximum extent practicable (VPDES Permit #VAR040093, Part I.C.4.). As such, revisions made in accordance with the VPDES MS4 Permit as a result of the iterative process do not require modification of the permit. Fort Belvoir will annually evaluate the MS4 Program Plan for program compliance, the appropriateness of identified BMP's and the progress towards achieving the identified measureable goals. Analysis of the information gathered for inclusion in the annual report will determine if BMP's remain effective or need to be modified. Revisions to this Program Plan are required to be summarized as part of the annual report, which is due annually on October 1<sup>st</sup>.

## **2. FACILITY BACKGROUND AND MS4 REGULATED SERVICE AREA**

The U.S. Army Garrison, Fort Belvoir (USAG, FB) is located in southeastern Fairfax County, Virginia, approximately 16 miles southwest of Washington D.C. and 80 miles north of Richmond, Virginia. Fort Belvoir's military history dates to the early 1900s, when the facility was known as Camp Belvoir and used as an Army rifle range and training camp. The post was re-named Fort Humphreys in 1922, and became Fort Belvoir in 1935. Since 1935, Fort Belvoir has supported major U.S. military operations throughout the world.

In recent years, Fort Belvoir has functioned primarily as an administrative and logistics support center for the Army and as a host to 150 mission partner organizations. The current population at Fort Belvoir includes approximately 40,000 military, civilians and contractor personnel and provides support services for approximately 70,000 military personnel, dependents and retirees in the region.

Fort Belvoir consists of approximately 8,500 acres and is divided into two separated land areas known as Main Post and the Fort Belvoir North Area. The Fort Belvoir North Area (FBNA), located just northwest of I-95, encompasses approximately 800 acres. The Main Post, located between I-95 and the Potomac River, accounts for the remaining acreage. U.S. Route 1 (Richmond Highway) further divides the Main Post into two distinct geographical areas, referred to as North Post and South Post (Figure 1).

In 1999, the EPA developed the Stormwater Phase II Final Rule which required operators of regulated small MS4s to obtain a NPDES permit and develop a stormwater management program designed to prevent pollutants from discharging into the MS4 system during a storm event or from being discharged directly into the MS4 and then discharged from the MS4 into local waterways. Fort Belvoir falls under the Phase II regulations as a small MS4 operator and has held coverage under a General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer System since 2003.

Additionally, if a small MS4 is located in an urbanized area as determined by the latest decennial census by the Bureau of the Census, then the small MS4 is regulated (9VAC25-870-400, B.1.a.). If the small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated. As determined by the 2010 Census Urbanized Area Reference Map for Fort Belvoir, only a portion of USAG, FB is regulated (Figure 1).

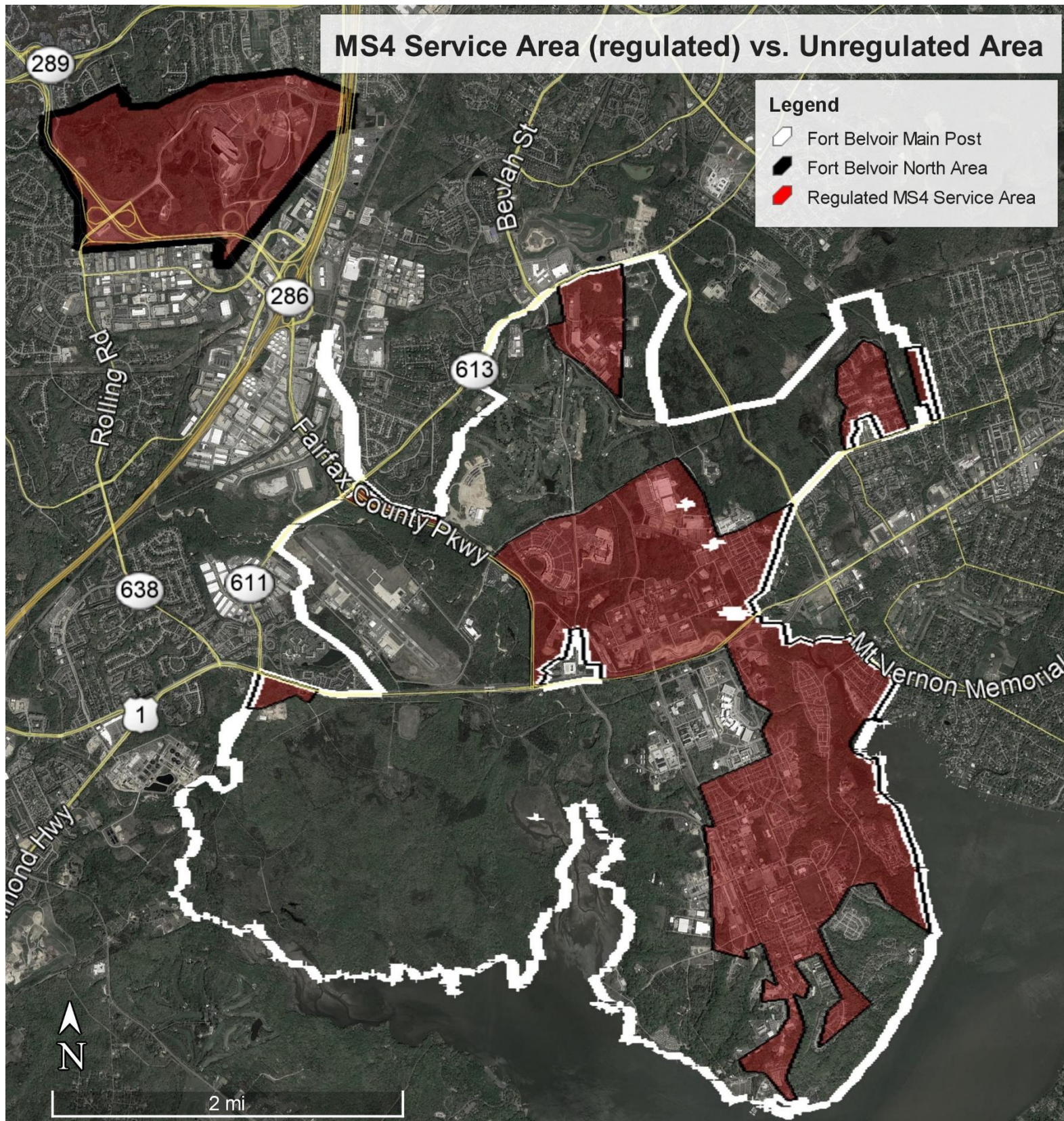


Figure 1: Regulated Service Area



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### **3. PROPERTIES NOT COVERED UNDER THE FORT BELVOIR MS4 PERMIT**

#### **3.1 Fort Belvoir Unregulated Areas**

As stated in Section 2, there are portions of Fort Belvoir that are not designated as urbanized area in the 2010 Census. Therefore, these areas of Fort Belvoir are unregulated (Figure 1).

#### **3.2 Fort Belvoir Virginia Pollutant Discharge Elimination System (VPDES) Major Industrial Stormwater Permit #VA0092771**

Fort Belvoir currently holds a separate Individual Major Permit for Stormwater Discharges from Industrial (ISW) Activities (VA0092771) that was issued on January 1, 2017. This permit has 31 representative outfalls and covers discharges from those industrial facilities which drain to these outfalls. This permit covers approximately 755 acres on the Main Post and 11.5 acres on Fort Belvoir North Area with about 235 acres being within the MS4 service area (Figures 2 and 3). Therefore, outfalls covered under the VPDES Major Industrial Stormwater Permit are not covered under the Fort Belvoir MS4 Permit.

#### **3.3 Rivanna Station**

Rivanna Station is located just north of Charlottesville, Virginia, and is owned by USAG, FB. As stated in 9VAC25-870-400, operators of MS4s are regulated if they operate a small MS4 located in an urbanized area as determined by the latest Decennial Census by the Bureau of Census. The 2010 Census Urbanized Area Reference Map for Charlottesville, Virginia shows that Rivanna Station is not located within an area designated as “Urbanized Area” or “Urban Cluster”. Therefore, USAG, FB is not required to obtain MS4 permit coverage for Rivanna Station under the Fort Belvoir MS4 permit.

#### **3.4 Virginia Department of Transportation (VDOT) VPDES Individual Permit for Discharges of Stormwater from MS4 Permit #VA0092975 (July 1, 2017 – June 30, 2022)**

The Virginia Department of Transportation (VDOT) holds easements for multiple portions of roads located along the jurisdictional boundary. On the Main Post, the VDOT easement covers approximately 117 acres to include sections of Route 1, Fairfax County Parkway, and Jeff Todd Way. At Fort Belvoir North Area, the VDOT easement covers approximately 158 acres to include sections of Fairfax County Parkway and Rolling/Barta Roads. Areas within VDOT easements are covered under VDOT’s MS4 Permit (Figures 2 and 3).

#### **3.5 Fairfax County Public Schools VPDES Municipal Separate Storm Sewer System (MS4) Permit #VAR040104**

The Fairfax County Public Schools has one school located within the Fort Belvoir property boundary, Fort Belvoir Elementary School located at 5970-5980 Meeres Road, Fort Belvoir, Virginia 22060. This school encompasses approximately 20 acres (Figure 2). Fort Belvoir Elementary School is covered under the Fairfax County Public Schools’ MS4 Permit.

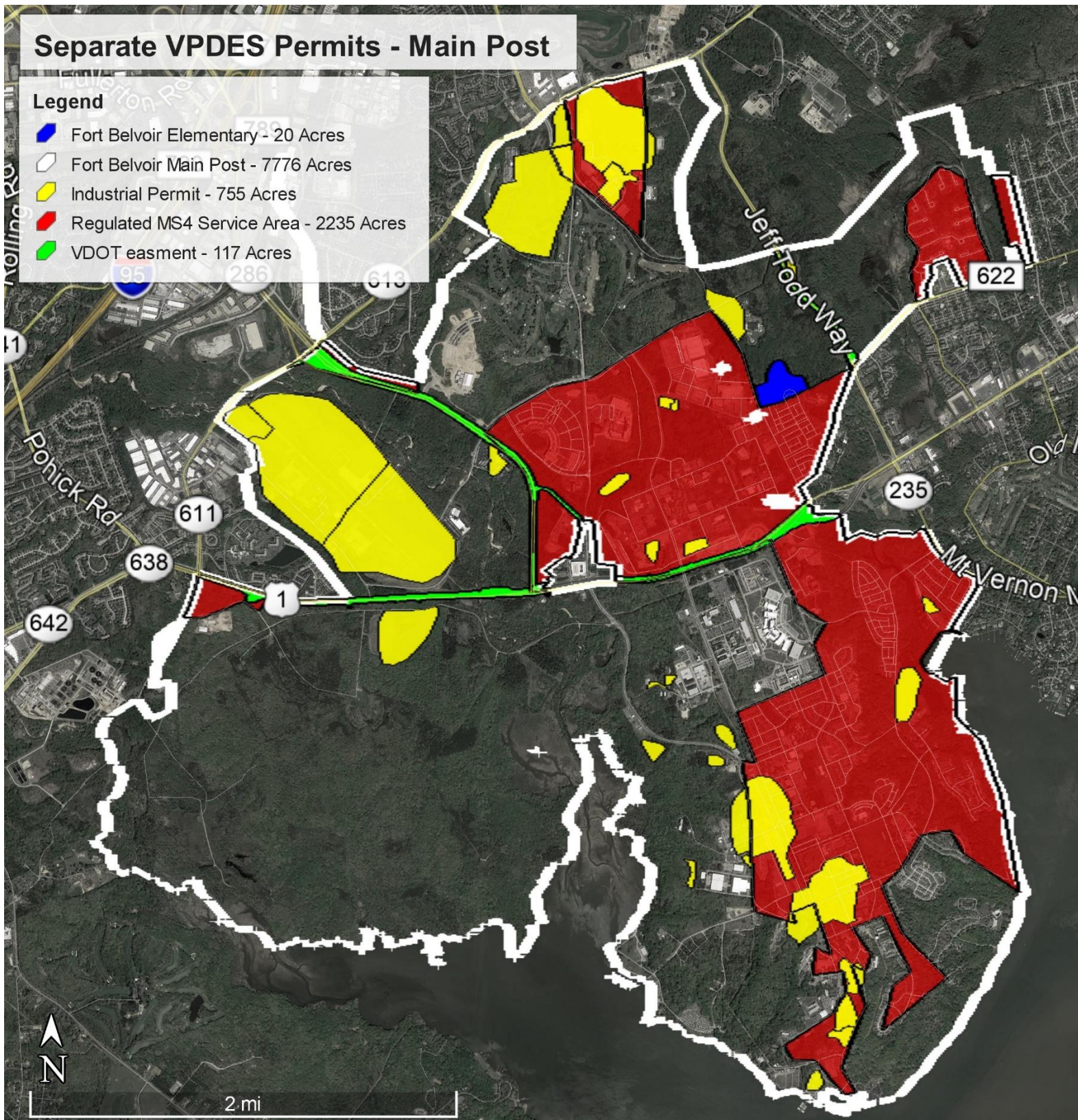
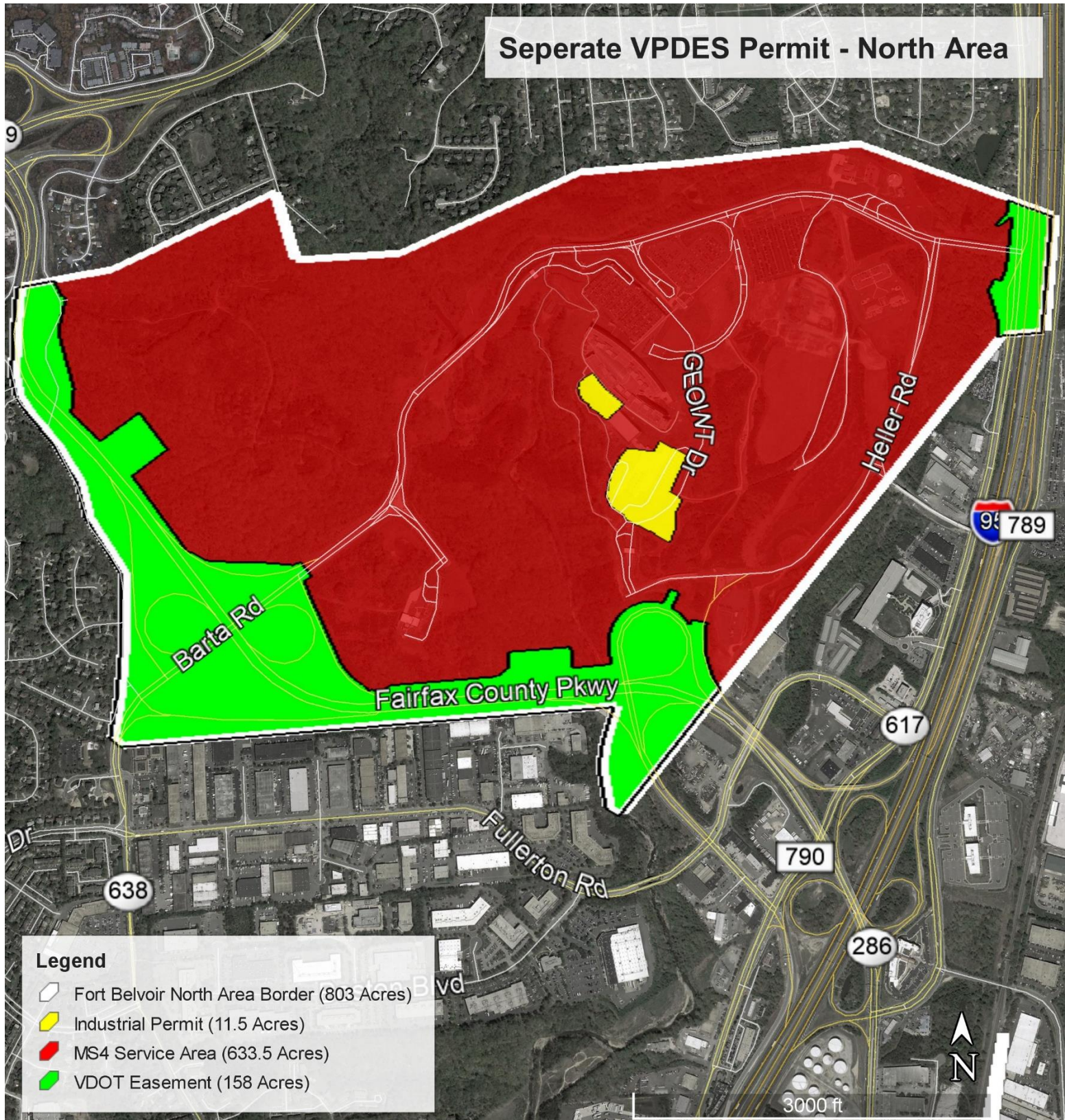


Figure 2: Areas Covered under Separate VPDES Permits – Main Post



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**Figure 3: Areas Covered under Seperate VPDES Permit - North Area**



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#### **4. LEGAL AUTHORITIES**

Legal authorities that are applicable to the Fort Belvoir Erosion and Sediment Control/Stormwater Management Program include federal and state laws and regulations, permits, and policy memorandums. These specific authorities are listed below.

##### **4.1 33 U.S.C. §1251 et seq (1972) Clean Water Act (CWA)**

The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly amended in 1972 and became known as the Clean Water Act. Other significant amendments were made to the CWA in 1977 and 1987. The Clean Water Act established the basic structure for regulation discharges of pollutants into the waters of the United States. The basic objective was to restore and maintain the chemical, physical and biological integrity of the Nation's waters.

Two major goals of the CWA were: (1) Eliminate the discharge of pollutants into navigable waters (2) achieve water quality that provides for recreation and protects fish, shellfish and wildlife. Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) point source permits. This section outlined the requirements for the State Permit Programs.

##### **4.2 42 U.S.C. §17094 Stormwater Runoff Requirements for Federal Development Projects (Public Law 110-140 §438)**

The basis for stormwater runoff requirements for federal development was enacted in December 2007 and became known as the Energy Independence and Security Act, Section 438 (EISA 438). Section 438 states in entirety "The sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."

40 CFR 122 - U.S. Environmental Protection Agency (USEPA) Administered Permit Programs: The National Pollutant Discharge Elimination System. This permitting program was established by USEPA to comply with Section 402 of the CWA. The NPDES program prohibits the discharge of pollutants through a point source into a water body of the U.S. unless and NPDES permit is obtained. The permit places limits on what can be discharged, includes monitoring and reporting requirements and other provisions to ensure that the discharge does not harm water quality or public health.

##### **4.3 Virginia State Water Control Law, Title 62.1, Chapter 3.1 (§ 62.1-44.2 et seq) of the Code of Virginia**

It is the policy of the Commonwealth of Virginia and the purpose of this law to: (1) protect existing high quality state waters and restore all other state waters to such condition of quality

that any such waters will permit all reasonable public uses and will support the propagation and growth of all aquatic life, including game fish, which might reasonably be expected to inhabit them; (2) safeguard the clean waters of the Commonwealth from pollution; (3) prevent any increase in pollution; (4) reduce existing pollution; (5) promote and encourage the reclamation and reuse of wastewater in a manner protective of the environment and public health; and (6) promote water resource conservation, management and distribution, and encourage water consumption reduction in order to provide for the health, safety, and welfare of the present and future citizens of the Commonwealth.

**4.4 Virginia Stormwater Management Act, Title 62.1, Chapter 3.1, Article 2.3 (§62.1-44.15:24 through §62.1-44.15:50) of the Code of Virginia**

The Virginia Stormwater Management Law seeks to protect properties and aquatic resources from damages caused by increased volume, frequency and peak rate of stormwater runoff. Additionally, the law seek to protect those resources from increased non-point source pollution attributed to stormwater runoff.

**4.5 Virginia Stormwater Management Program (VSMP) Permit Regulations (9VAC25-870)**

VSMP permit regulations “provide a framework for the administration, implementation and enforcement of the Virginia Stormwater Management Act and to delineate the procedures and requirements to be followed in connection with state permits issued by the board pursuant to the Clean Water Act and the Virginia Stormwater Management Act and permits issued by a VSMP authority, while at the same time providing flexibility for innovative solutions to stormwater management issues.”

**4.6 Virginia Erosion and Sediment Control Law Title 62.1, Chapter 2.4 (§62.1-44.15:51 through §62.1-44.15:66) of the Code of Virginia**

The Erosion and Sediment Control Law requires that the State Water Control Board “...shall develop a program and promulgate regulations for the effective control of soil erosion, sediment deposition and nonagricultural runoff that must be met in any control program to prevent the unreasonable degradation of properties, stream channels, waters and other natural resources...”

**4.7 Virginia Erosion and Sediment Control Regulations (9VAC25-840)**

This regulation sets forth minimum standards for “*effective control of soil erosion, sediment deposition and nonagricultural runoff*” in erosion and sediment control plans and erosion and sediment control annual standards and specifications.

#### **4.8 Virginia Erosion and Sediment Control and Stormwater Management Certification Regulations (9 VAC25-850)**

This regulation specifies requirements for certificates of competence for program administrator, plan reviewer, project inspector and combined administrator for both Erosion and Sediment Control and Stormwater Management.

#### **4.9 General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (9VAC25-890), Fort Belvoir MS4 Permit #VAR040093**

This state permit authorizes operators of small municipal separate storm sewer systems to discharge to surface waters within the boundaries of the Commonwealth of Virginia in accordance with Section I, II, and III of the permit. Operators are required to develop and implement the MS4 Program Plan and update in accordance with the schedule set forth in the permit conditions.

#### **4.10 Office of the Under Secretary of Defense, DoD Implementation of Stormwater Requirements under Section 438 of the Energy Independence and Security Act (EISA) Memorandum (January 19, 2010)**

This policy memorandum outlines requirements of the DoD issued Unified Facilities Criteria on Low Impact Development and EISA Section 438 stormwater design requirements. Additionally, this policy memorandum clarifies that EISA Section 438 requirements are independent of storm water requirements under the Clean Water Act and should not be included in permits for storm water unless a State (or EPA) has promulgated regulations for certain EISA Section 438 requirements (i.e. temperature/heat criteria) that are applicable to all regulated entities under its Clean Water Act authority.

#### **4.11 Department of the Army, Office of the Assistant Secretary of the Army, Installations, Energy and Environment, Sustainable Design and Development Policy Update Memorandum (October 27, 2010)**

This policy memorandum outlines requirements for the Army's commitment to sustainable design and development and directs EISA Section 438 compliance. Section 5.f. Stormwater Water Management states that "Facility construction projects will comply with EISA Section 438 (42 U.S.C. §17094), when applicable, using DoD Policy on Implementation of EISA Section 438 and consistent with the U.S. Environmental Protection Agency's *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under EISA Section 438* (December 2009).

#### **4.12 Fort Belvoir Policy Memorandum #28, Environmental Policy**

Section 4.a. of this policy states “Fort Belvoir is committed to the protection of the environment, within mission and funding constraints, and will be accountable for its decisions. In support of this environmental policy, Fort Belvoir will: Comply with legal and other requirements applicable to the conduct of Fort Belvoir’s mission while continually improving Fort Belvoir’s environmental performance.” See Appendix A for a copy of the policy memorandum.

#### **4.13 Fort Belvoir Policy Memorandum #71, Stormwater Pollution Prevention**

This memorandum publishes policy that defines prohibited discharges into the storm sewer system, stormwater pollution prevention and annual training requirements. Section 5 of this policy states “Fort Belvoir is committed to protecting water quality of waterways on and surrounding Fort Belvoir to ensure that human health, ecosystem health and the ability to conduct recreational opportunities are not impacted by stormwater pollution.” See Appendix A for a copy of the policy memorandum.

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

This memorandum publishes policy that defines stormwater pollution prevention plan (SWPPP) requirements for facilities and construction sites and establishes a Pollution Prevention Team that is responsible for completing facility inspections, maintaining operational compliance and provided required documentation. Section 6 of this policy states “Fort Belvoir is committed to protecting water quality of waterways on and surrounding Fort Belvoir to ensure that human health, ecosystem health and the ability to conduct recreational opportunities are not impacted by stormwater pollution.” See Appendix A for a copy of the policy memorandum.

## **5. PROGRAM ADMINISTRATION**

### **5.1 Organizational Structure (Permit #VAR040093, Part I.C.1.a.)**

The primary responsibility for coordinating, educating and reporting compliance with the MS4 General Permit is held by the MS4 Stormwater Program Administrator within the Directorate of Public Works, Environmental Division, Compliance/Restoration Branch (Figure 4: Directorate of Public Works Organization Structure). Many activities that are identified in the procedural best management practices (BMPs) that are provided in Section 9 are implemented by other government employees located within other Directorates and Support Offices and within other Divisions of the Directorate of Public Works (Figure 5: U.S. Army Garrison, Fort Belvoir Organization Structure). Each BMP described will identify the primary responsible party or parties implementing the practice and/or providing information for reporting purposes. Fort Belvoir does not rely on an outside entity to implement any of the program minimum control measures. However, Fort Belvoir may, as program funding allows, rely on contracted personnel to assist with implementation of some MS4 program elements since only one full-time government employee is authorized on the payroll to maintain complete work as required to maintain compliance with the VPDES MS4 Permit.

Fort Belvoir – Operations and Maintenance utilizes a Mission & Installation Contracting Command (MICC) Services Contract with Aleut O&M Services LLC (Aleut), which provides Garrison wide infrastructure maintenance and repair services. The contractor, Aleut, supports the MS4 program through their Roads, Streets, and Grounds Division as well as their Environmental Compliance Division. Aleut is responsible for maintenance, inspection, and repairs to the storm sewer system to ensure continuous normal operation and prevent flooding. Aleut also performs regular preventative maintenance of stormwater management facilities as well as annual inspections and major repairs as needed. All roads and parking areas across the Garrison and also maintained by Aleut and swept monthly with a regenerative air sweeper.

Fort Belvoir - Environmental utilizes a U.S. Army Corps of Engineers Baltimore District Environmental Services Contract to contract personnel to assist with implementation of some MS4 program elements, as program funding is available. The number of contracted personnel vary from fiscal year to fiscal year. Additionally, contractors are required to maintain Virginia Department of Environmental Quality (VADEQ) Certifications for Stormwater Inspector, Erosion and Sediment Control Inspector, Stormwater Plan Reviewer and Erosion and Sediment Control Plan Reviewer for contracted tasks requiring those types of certification to the perform the work. Table 1 identifies Minimum Control Measures (MCM)/Permit requirements with associated potential contract support role.

**Table 1: MS4 Program Administration - Contract Support**

<b>Minimum Control Measure</b>	<b>Contract Support Role</b>
<b>MCM#1 Public Education and Outreach</b>	Develops, prints and distributes traditional written materials, media materials and training materials; Creates displays for public outreach events
<b>MCM#2 Public Involvement and Participation</b>	Advertises, organizes and implements 4 activities per year;
<b>MCM#3 Illicit Discharge Detection and Elimination</b>	Conducts annual outfall inspections; conducts source tracking and identification; conducts complaint investigations; conducts windshield inspections, reviews and approves requests to discharge, mapping support for maintaining outfall inventory and associated data table;
<b>MCM #4 Construction Site Stormwater Runoff Control</b>	Conducts ESC/SWM plan reviews; conducts ESC/SWM inspections and construction site complaint investigations; provides Pre-Construction training; maintain internal project inventory; reviews dig permits.
<b>MCM#5 Post Construction Stormwater Management</b>	Mapping support for stormwater facility inventory and associated data table Stormwater Facility Inspection and Maintenance
<b>MCM#6 Pollution Prevention/Good Housekeeping</b>	Conducts training sessions; conducts high priority facility inspections and follow-up for deficiencies; maintains VADEQ required certifications for stormwater personnel; maintains personnel certifications for pesticide applicators and nutrient management planners; performs annual facility evaluation; develops SWPPPs; develops activity guides/Fact Sheets Storm Sewer System Preventative Maintenance Roads, Streets, Parking Lot, Grounds Maintenance
<b>Various TMDLs</b>	Prepares new plans/updates existing plans as needed; conducts BMP verification inspections as needed.

## 5.2 Delegation of Signature Authority (Permit #VAR040093, Part III. K.2)

All reports required by state permits, and other information requested by the board shall be signed by a duly authorized representative of that person. The Garrison Commander, as the principal executive officer for the MS4 permit, may delegate signature authority to the Director of Public Works for routine correspondence which includes submittal of annual reports and correspondence related to requests for information received from the Commonwealth of Virginia, Department of Environmental Quality. The Delegation of Signature Authority remains valid until a new Garrison Commander is appointed. At such time, the Delegation of Signature Authority memorandum becomes invalid and the new Garrison Commander signs a new memorandum. Signature Authority for the current Garrison Commander was delegated to the Director of Public Works via Memorandum dated October 6, 2020. A copy of the Memorandum may be found in Appendix B.

### 5.3 Documents Incorporated by Reference (Permit #VAR040093, Part I, C.1.d.)

The following documents are incorporated into the MS4 Program Plan by reference and are available upon request by contacting the MS4 Stormwater Program Administrator at (703) 806-3406 OR Environmental Division, Directorate of Public Works, 9430 Jackson Loop, Building 1442, Fort Belvoir, Virginia 22060-5116:

- Final *Chesapeake Bay Phase II Total Maximum Daily Load (TMDL) Action Plan for U.S. Army Garrison Fort Belvoir, Virginia* dated September 2019
- *Fort Belvoir PCB TMDL Action Plan* updated April 2020
- *U.S. Army Garrison Fort Belvoir, Virginia Bacterial Total Maximum Daily Load Action Plan for the Lower Accotink Creek Watershed* updated April 2020
- MS4 Outfall Map and Information Table, October 1, 2020
- *The U.S. Army Fort Belvoir Virginia Illicit Discharge Detection and Elimination Plan* December 2020
- *General Plan for Stormwater Management Facility Inspection and Maintenance* dated September 2013 and revised on September 2019
- Stormwater Management Facilities EXCEL Spreadsheet
- BMP Fact Sheets
- *Fort Belvoir Combined Industrial Stormwater (ISW) and Municipal Separate Storm Sewer System (MS4) Stormwater Pollution Prevention Plan (SWPPP)* dated August 2019
- *Fort Belvoir Municipal Separate Storm Sewer System (MS4) Stormwater Pollution Prevention Plan (SWPPP) for High-Priority Facilities* dated July 2019
- *Fort Belvoir Combined Industrial Stormwater (ISW) and Municipal Separate Storm Sewer System (MS4) Stormwater Pollution Prevention Training Plan* dated April 2019
- *Fort Belvoir Residential Communities Initiative – A (Cedar Grove, Colyer, Gerber, Herryford, Lewis, Vernondale Nutrient Management Plan* dated June 29, 2019
- *Fort Belvoir Residential Communities Initiative – B (Belvoir, Jadwin, Fairfax, Park, Rossell) Nutrient Management Plan* dated June 29, 2019
- *Fort Belvoir Residential Communities Initiative – C (Dogue Creek, Washington, River, Woodlawn) Nutrient Management Plan* dated March 20, 2020
- *Fort Belvoir Golf Club Nutrient Management Plan* dated June 29, 2019

Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

- *DLA/DCAA Headquarters Complex Nutrient Management Plan* dated March 19, 2020
- *Missile Defense Agency Headquarters Nutrient Management Plan* dated March 18, 2020
- *National Geospatial-Intelligence Agency Campus East Nutrient Management Plan* dated March 18, 2020

Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

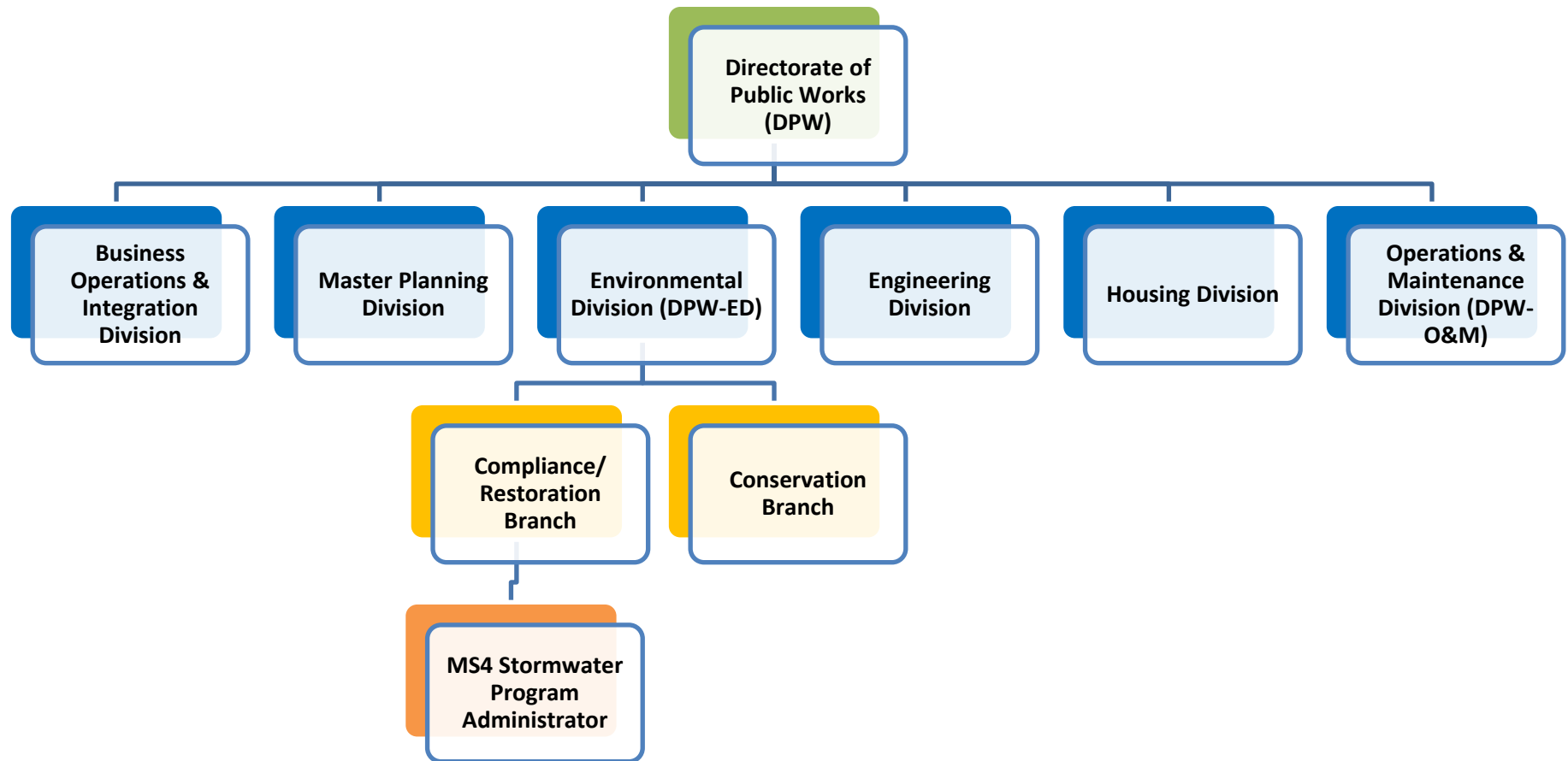
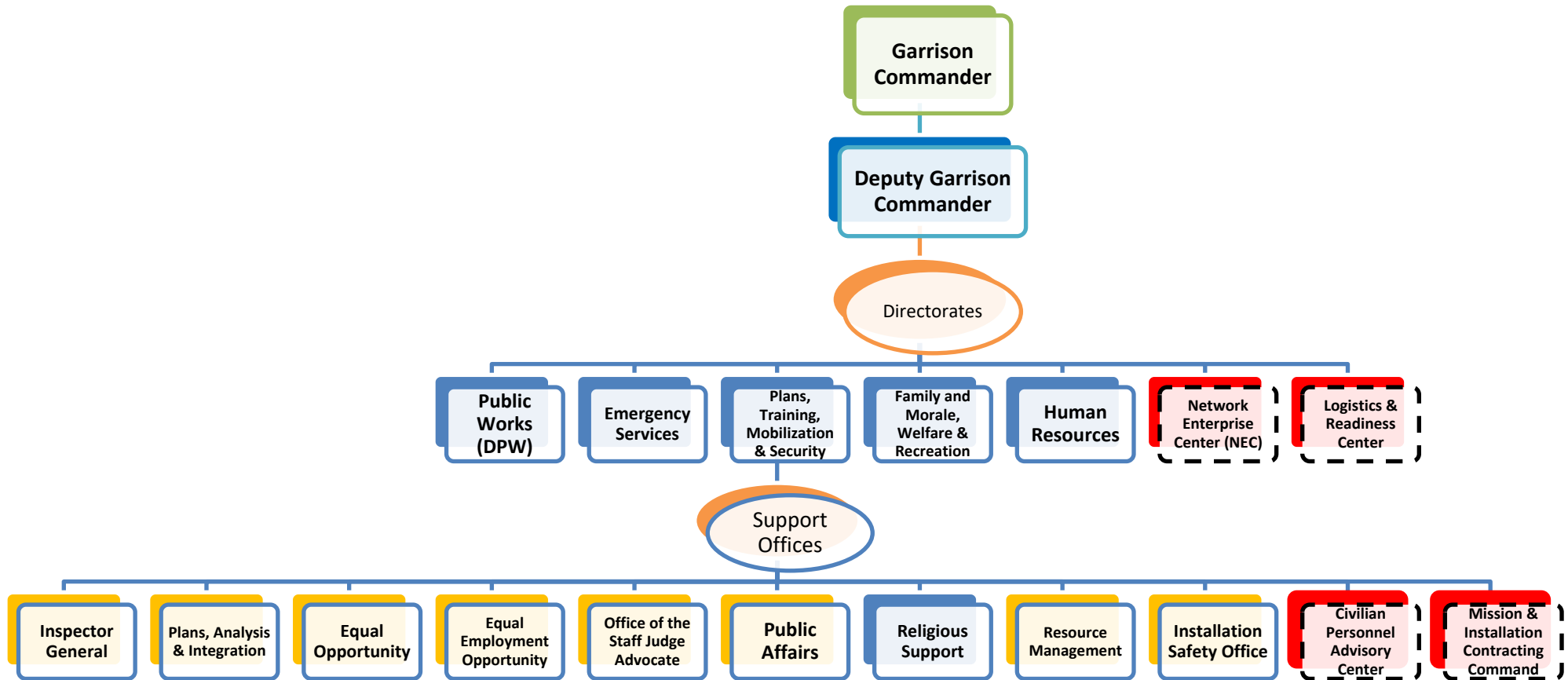


Figure 4: Directorate of Public Works Organization Structure

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan



**Figure 5: U.S. Army Garrison, Fort Belvoir Organization Structure (Directorates and Support Offices in red do not report to the Garrison Commander but provide services to support the Garrison Commander. All other Directorates and Support Offices report directly to the Garrison Commander.)**

## 6. HYDROLOGIC UNIT CODES, WATERSHEDS AND LAND USE

Fort Belvoir consists of approximately 8,500 acres and is divided into two broad land areas: Main Post and FBNA; with Main Post being located east of I-95 and FBNA being located west of I-95 (Figure 6: General Location Map).

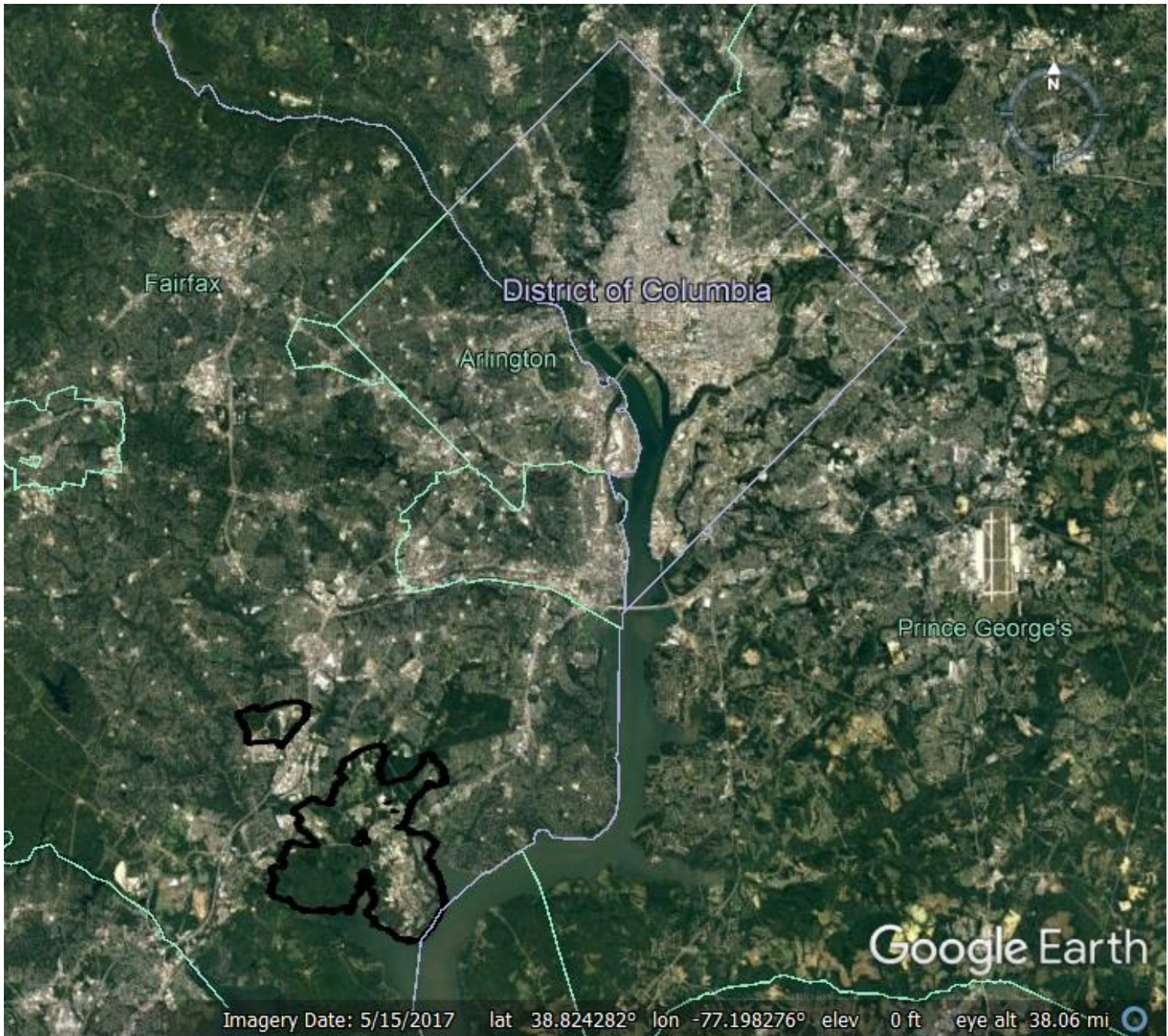


Figure 6: General Location Map

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

The Hydrologic Unit Codes (HUC) identified in the most recent version of Virginia's 6<sup>th</sup> Order National Watershed Boundary Dataset as receiving discharges or have the potential to receive discharges from the Fort Belvoir MS4 are as follows:

- PL27 (HUC12 = 020700100306) Dogue Creek
- PL28 (HUC12 = 020700100307) Potomac River-Little Hunting Creek
- PL29 (HUC12 = 020700100401) Pohick Creek
- PL30 (HUC12 = 020700100402) Accotink Creek
- PL50 (HUC12 = 020700100805) Potomac River-Occoquan Bay

These watersheds were determined by using the Virginia Department of Conservation and Recreation (VADCR) Interactive Map of Virginia Hydrologic Units found at:  
<http://consapps.dcr.virginia.gov/htdocs/maps/HUExplorer.htm>.

Figure 7 shows Fort Belvoir properties in reference to these watersheds. All stormwater discharges from Fort Belvoir eventually enter the Potomac River. The size of HUC watersheds within Fort Belvoir, the regulated portion, and associated land uses are described below. Data from the 2018 Chesapeake Bay TMDL Phase II Action Plan was used in this analysis.

### 6.1 Dogue Creek Watershed – PL27

The Dogue Creek Watershed encompasses approximately 1,777 acres of Fort Belvoir with approximately 990 acres regulated under the MS4 Permit. The other 787 acres are either regulated under a separate VPDES or are not considered urban in the 2010 census. Land uses in this watershed include:

- Outdoor Recreation areas: Jackson Miles Abbott Wetland Refuge and the T-17 Wildlife Refuge.
- Residential areas: Woodlawn, George Washington, Cedar Grove, Dogue Creek, Park, River, Coyler, Lewis, Jadwin and Rossell Villages.
- Professional/Institutional areas: Administration and education facilities including headquarters, Defense Acquisition University, and Missile Defense Agency
- Research and development area: ADF-East

### 6.2 Potomac River-Little Hunting Creek Watershed – PL28

The Potomac River-Little Hunting Creek Watershed encompasses approximately 220 acres. Land uses in this watershed include:

- Residential areas: Belvoir Village
- Community Space: Pool and Officer's Club

### **6.3 Pohick Creek Watershed PL29**

The Pohick Creek Watershed encompasses approximately 1,191 acres and includes Fort Belvoir's Pohick Creek and Pohick Bay watersheds. Land uses in this watershed include:

- Ranges and Training area: Undeveloped wooded areas, stables, and operational ranges for engineer/troop training.
- Outdoor Recreation area: A portion of the Accotink Bay Wildlife Refuge.

### **6.4 Accotink Creek Watershed – PL30**

The Accotink Creek Watershed encompasses approximately 4571 acres and includes Fort Belvoir North Area (FBNA), approximately 803 acres. All of FBNA falls within the regulated area designated in the 2010 census while only 836 acres of the main post is within the regulated area. Land uses in this watershed include:

- Outdoor Recreation areas: A portion of the Accotink Bay Wildlife Refuge on the main post and the Accotink Creek conservation Corridor at FBNA
- Residential areas: Herryford, Vernondale, and Gerber Villages
- Community areas: Post Exchange, commissary, convenience store, gas station, bank and chapel, dining facilities, 36-hole golf course, elementary school.
- Professional/Institutional areas: Administration and education facilities including Defense Logistics Agency (DLA), Hospital, INSCOM
- Research and development area: NGA, 300 Area
- Industrial Areas: Warehouses and storage facilities
- Troop areas: Davison Army Airfield (DAAF), motor pools, maintenance facilities.

### **6.5 Potomac River-Occoquan Bay Watershed – PL50**

The Potomac River-Occoquan Bay Watershed encompasses approximately 17 acres. Land uses in this watershed include:

- Research and development areas: 300 Area

# Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

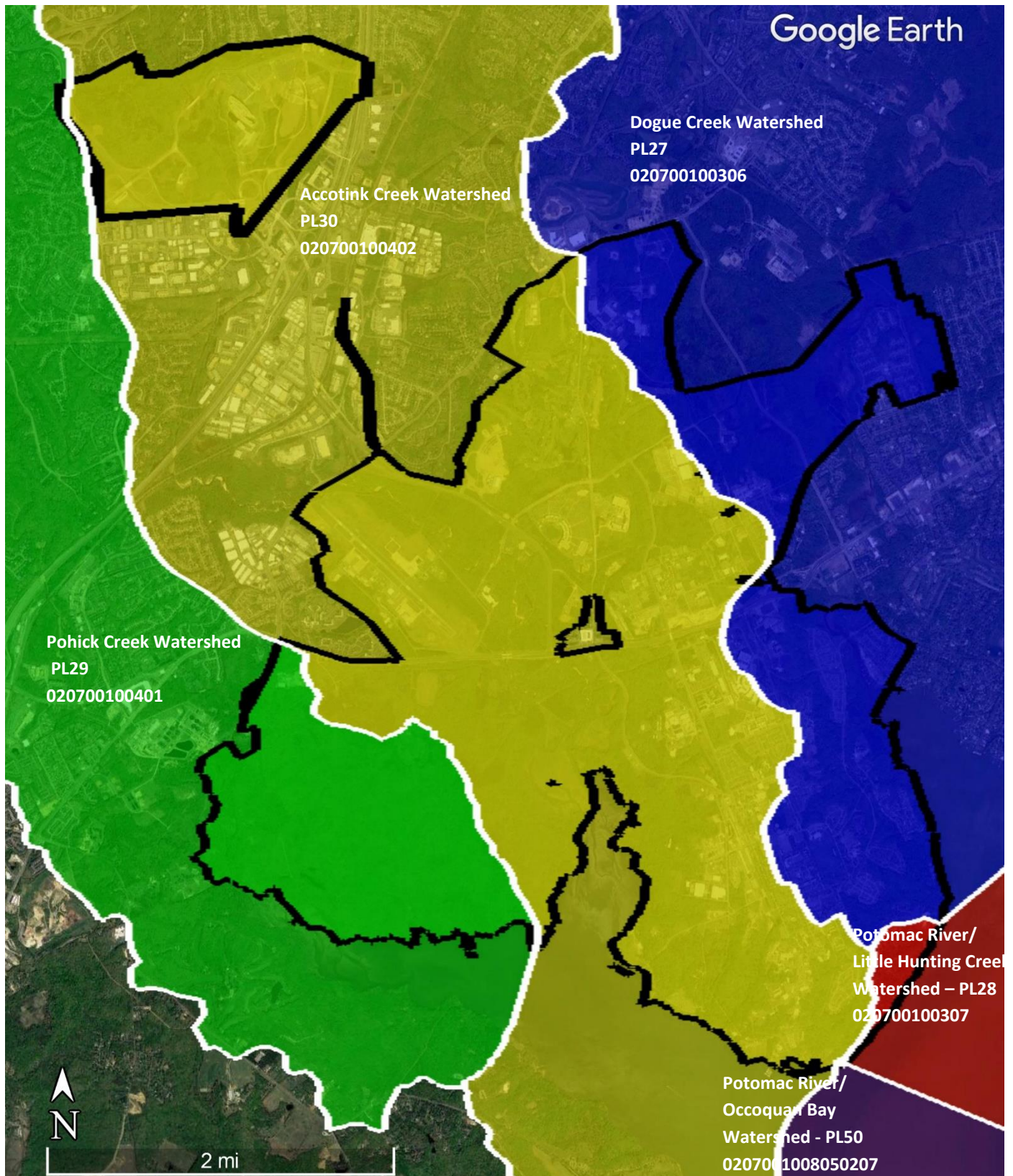


Figure 7: Hydrologic Units and Watersheds



Created for:  
U.S. Army Garrison  
Fort Belvoir

Prepared By: **SES**  
SCF LLC  
**Construction and  
Fuel Services LLC**

## 7. IMPAIRED WATERS

Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency's Water Quality Planning and Management Regulations (40 CFR Part 30) direct States to identify and list water bodies in which current required controls of a specified pollutant are inadequate to achieve water quality standards. For the Commonwealth of Virginia, impaired waters are outlined in the biennial Virginia Water Quality Assessment 305(b)/303(d) Integrated Report. Based on a review of the *Final 2016 305(b)/303(d) Water Quality Assessment Integrated Report*, Virginia Department of Environmental Quality, dated February, 2018 (released April 2, 2018) and Approved TMDL Reports located at <https://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/ApprovedTMDLReports>, the Fort Belvoir MS4 discharges into the impaired receiving surface waters listed in Table 2.

**Table 2: Impaired Surface Waters Receiving Discharge from USAG Fort Belvoir**

Cause Group Code Impaired Use	Water Name Cause	Cause Category	Initial List Date	TMDL Development Date	EPA Approved Date	SWCB Approved Date
A15R-01-PCB Fish Consumption	Accotink Creek PCB in Fish Tissue	5A	2010	2022		
A15R-01-BEN Aquatic Life	Accotink Creek Benthic-Macroinvertebrate Bioassessments	5A	1996	2016	Chloride – 5/23/18 Sediment – 5/23/18	Chloride – 4/12/18 Sediment – 5/23/18
A15R-01-BAC Recreation	Accotink Creek Escherichia coli	4A	2004	2016	12/18/2008	4/28/2009
A15E-01-PH Aquatic Life	Pohick Bay pH	5A	2012	2024		
A16E-01-BZOKFL Fish Consumption	Pohick Creek Benzo{k}fluoranthene	5A	2002	2014		
A16R-01-BAC Recreation	Pohick Creek Escherichia coli	5A	2006	2018		
A144R-02-BAC Recreation	Dogue Creek Escherichia coli	5A	2014	2026		
A12E-01-PCB Fish Consumption	Potomac River Embayments PCB in Fish Tissue, PCB in Water Column	4A	2006	2007	10/31/2007	4/11/2008

## 8. MINIMUM CONTROL MEASURES

The six minimum control measures (MCMs) described in 9VAC25-890-40 Part I.C are:

- Public education and outreach
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site stormwater runoff control
- Post-construction stormwater management in new development and development on prior developed lands
- Pollution prevention and good housekeeping for facilities owned or operated by the permittee within the MS4 service area

For the MCMs discussed in Sections 9.1 – 9.6, the following information is provided for each MCM as required (VPDES Permit #VAR040093, Part I.C.1.c):

*“For each MCM in Part I E, the following information shall be included:*

- (1) Each specific requirement as listed in Part I E for each MCM;*
- (2) A description of the BMPs or strategies that the permittee anticipates will be implemented to demonstrate compliance with the permit conditions in Part I E;*
- (3) All standard operating procedures or policies necessary to implement the BMPs;*
- (4) The measurable goal by which each BMP or strategy will be evaluated; and*
- (5) The persons, positions, or departments responsible for implementing each BMP or strategy;”*

Definition of **“Public”**: “Public” is not defined in the MS4 permit. However, VADEQ concurred with the following EPA statement, which was published in the Federal Register, Volume 64, No. 235, page 68,750 on December 8, 1999, regarding “public” and its applicability to MS4 programs: “EPA acknowledges that federal and state facilities are different from municipalities. EPA believes, however, that the minimum measures are flexible enough that they can be implemented by these facilities. As an example, DOD commentators asked about how to interpret the term “public” for military installations when implementing the public education measure. EPA agrees with the suggested interpretation of “public” for DOD facilities as “the resident and employee population within the fence line of the facility.” Therefore, Fort Belvoir adopts the EPA definition of “public” as the resident and employee population within the fence line of Fort Belvoir for compliance with the MS4 General Permit.

Definition of **“Permit Year”** as used under BMPs listed under each MCM is 1 November – 31 October.

Definition of **“Reporting Period”** as used under BMPs listed under each MCM is 1 July – 30 June.

Definition of **“Privately Owned”** as used under BMPs listed in MCM#5 includes stormwater management facilities or BMPs that are owned and operated by the privatized housing partner, Fort Belvoir Residential Communities Initiative, OR stormwater management facilities or BMPs that are operated and maintained by tenant commands usually located within a controlled security access.

### **8.1 Minimum Control Measure #1: Public Education and Outreach on Stormwater Impacts**

The Public Education and Outreach Program has been designed to (VPDES Permit #VAR040093, Part I.E.1.):

- (1) Increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
- (2) Increase the public's knowledge of hazards associated with illegal discharges and improper disposal of wastes, including pertinent legal implications; and
- (3) Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.

Specific conditions outlined in the permit include the following:

- (1) Clearly identify three high priority water quality issues to meet the goal of educating the public;
- (2) Explain the importance of high-priority stormwater issues;
- (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; and
- (5) Utilize two or more of the strategies listed in Permit Part I.E.1.d to communicate to the public the high-priority stormwater issues identified and how to reduce stormwater pollution.

The MS4 permit requires the identification of a minimum of three high-priority water quality issues that contribute to stormwater pollution and provide a rationale for their selection. Two factors were evaluated to identify a minimum of three high priority water quality issues and include: (1) impaired waters and associated applicable TMDLs and (2) land use categories and the associated human activities/potential pollutants. USAG Fort Belvoir MS4 discharges into impaired receiving waters listed in Table 2. Impaired water causal pollutants include: bacteria, nutrients (phosphorous and nitrogen), sediment, PCBs and chloride. Additionally, USAG Fort Belvoir has developed and implements TMDL Action Plans associated with nutrients (Chesapeake Bay TMDL Action Plan), bacteria (Accotink Creek Bacteria TMDL Action Plan) and PCBs (PCB TMDL Action Plan) and two TMDLs were recently approved in 2018 for chloride and sediment.

Land use categories are identified in the Real Property Master Plan – Installation Vision and Development Plan dated May 2015. Seven land use categories are defined in the Real Property Master Plan and include the following:

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- Professional/Institutional: Includes administration and education facilities and research and development areas
- Community: Includes retail-based activities (shopping, dining and services) and outdoor recreation
- Residential: Includes privatized housing villages
- Troop: Includes troop-related barracks, fitness center, theater, maintenance facilities, motor pools
- Industrial: two primary industrial areas that include storage facilities and warehouses
- Ranges and Training: Includes one large range and training area
- Airfield

Of these land use categories, five out of seven categories are located within the MS4 Regulated Service Area: Professional/Institutional, Community, Residential, Industrial and Troop. Potential stormwater pollutants identified for each of these land use categories are listed below in Table 3.

**Table 3: Land Use Categories and Potential Stormwater Pollutants**

Land Use Category	Potential Stormwater Pollutants
Professional/Institutional	Nutrients, sediment, litter, chlorides
Community	Nutrients, sediment, litter, pet waste, detergents, FOG (fats, oil and grease), chlorides
Residential	Nutrients, sediment, litter, pet waste, detergents, motor oil, solvents/degreasers, chlorides
Troop	Sediment, litter, detergents, solvents/degreasers, motor oil, hydraulic fluid, fuel, chlorides
Industrial	Nutrients, sediment, litter, detergents, solvents/degreasers, motor oil, hydraulic fluid, fuel, chlorides

Based on evaluation of the factors listed above, the five high-priority stormwater issues identified include sediment, nutrients, bacteria, chloride, and FOG (fats, oils, and grease). Rationale for identification of these issues are listed below in Table 4.

**Table 4: High Priority Stormwater Issues Rationale**

HIGH PRIORITY STORMWATER ISSUE	RATIONALE
Bacteria	Bacteria has been identified as a significant water quality concern that is contributing to water quality impairments identified specifically for Accotink Creek, Dogue Creek and Pohick Creek. Residential areas have the potential to produce bacteria water quality impacts due to pet waste. Additionally, sanitary sewer overflows are a source of bacteria.

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<b>HIGH PRIORITY STORMWATER ISSUE</b>	<b>RATIONALE</b>
Nutrients	Nutrients have been identified as a significant water quality concern that are contributing to water quality impairments identified for the Chesapeake Bay and Accotink Creek. Excess phosphorous and nitrogen entering the storm sewer enhance the growth of harmful algae blooms which block sunlight from reaching underwater vegetation and create low oxygen zones that suffocate aquatic life. There is a significant target population that works or lives at Fort Belvoir that has potential to produce water quality impacts due to nutrients due to grounds and lawn maintenance.
Sediment	Sediment has been identified as a significant water quality concern that is contributing to water quality impairments identified for the Chesapeake Bay and Accotink Creek. Sediment was chosen as a high priority stormwater issue because it degrades suitability of water for drinking, stresses aquatic life and vegetation, acts as a transport mechanism for nutrients and chemicals and fills up storm drains and inlets increasing the likelihood of localized flooding.
Chloride	Chloride has been identified as a significant water quality concern that is contributing to water quality impairments identified for Accotink Creek. Chloride is chosen as a high priority stormwater issue because fort Belvoir works like a small city and needs to maintain roads and sidewalks in order to facilitate the troop movement. Large facilities used to store and manage salt may be a source of chloride damaging the Accotink Creek. Educating the general population on the proper storage and application of salts during the winter months will assist Belvoir in managing chloride loads.
FOG (Fats, oil and grease)	FOG has been identified as a significant water quality concern that has the potential to contribute to water quality impairments. Grease was chosen as a high priority stormwater issue because it is the most common pollutant found at high priority facilities. FOG can have negative impacts on wastewater collection, treatment facilities and natural waterways. These types of pollutants can degrade water quality and impair the health of fish and wildlife habitats. Additionally FOG is known to impair or clog the sanitary sewer system which can lead to sanitary sewer overflows, a source high in bacteria. Proper grease management should be enforced for facility personnel and outside contractors.

Based on types of pollutants identified as a high priority stormwater issue, targeted audiences for public education and outreach are listed below with the strategies that will be used to reach the identified audience. Public education and outreach activities were chosen from Part I.E.1.d. Table 1 of the MS4

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

permit. All audiences identified below have the potential to contribute to or prevent stormwater pollution thereby directly impacting water quality of impaired waters.

- **Housing Residents <sup>1</sup>:** There are 2,154 housing units located at Fort Belvoir with a total residential population of approximately 8,200. Occupancy rate stays at 96-97% all year long with a waitlist of approximately 400+ families. The average annual turnover rate is 45% - 50%.  
**Outreach Strategies:** Traditional Written Materials (Fact Sheets, Brochures) and Media Materials (electronic media to include mass emails and Facebook; newspaper articles)
- **Contractor Personnel <sup>2</sup>:** A significant amount of activity occurring on Fort Belvoir is carried out by contractors for the types of services such as custodial, operations and maintenance, residential housing, and repair and construction. Approximately 12,500 contractors work on Fort Belvoir.  
**Outreach Strategies:** Traditional Written Materials (Fact Sheets, Brochures) and Training Materials
- **Military Personnel <sup>2</sup>:** Fort Belvoir has a military component of approximately 9,000 personnel that are active duty or reserves. It should be noted that some of this audience overlaps with the housing resident audience.  
**Outreach Strategies:** Media Materials (electronic media to include mass emails and Facebook; newspaper articles)
- **Civilian Personnel <sup>2</sup>:** Approximately, 18,600 civilian personnel are employed at Fort Belvoir.  
**Outreach Strategies:** Traditional Written Materials (Fact Sheets, Brochures) and Media Materials (electronic media to include mass emails and Facebook; newspaper articles)

<sup>1</sup>Housing Residents Data: Data obtained from Chief, Housing Division

<sup>2</sup>Contractor, Military and Civilian Population Data: Fort Belvoir Army Stationing and Installation Plan (ASIP) Fiscal Year (FY17) Summary

Planned education and outreach activities and associate proposed schedule are listed below in Table 5.

**Table 5: Public Education and Outreach Program Proposed Schedule**

DATE	HIGH PRIORITY STORMWATER ISSUE	AUDIENCE	STRATEGY
September	Sediment, Nutrients, Bacteria	Housing Residents, Military and Civilian Personnel	Media Materials: Newspaper Article in <i>Belvoir Eagle</i>
September	Nutrients, Bacteria	Housing Residents	Traditional Written Materials: Pet Waste Brochure at Pooch Plunge
September	Nutrients, Bacteria, Sediment	Military and Civilian Personnel	Media Materials: Stormwater Newsletter
December	Chloride, FOGs	Housing Residents, Military and Civilian Personnel	Media Materials: Newspaper Article in <i>Belvoir Eagle</i>

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

DATE	HIGH PRIORITY STORMWATER ISSUE	AUDIENCE	STRATEGY
January	Sediments, Nutrients, Bacteria	Housing Residents	Traditional Written Materials and Media Materials: Residents Responsibility Guide; Mass Email
January	Chloride	Military and Civilian Personnel	Media Materials: Stormwater Newsletter
February	Nutrients, Bacteria, Sediment	Housing residents, military and civilian personnel	Media Materials: Newspaper Article in <i>Belvoir Eagle</i>
March	Fat, Oil and Grease (FOG)	Contractor, Military and Civilian Personnel	Traditional Written Materials
April	Nutrients, Sediment	Military and Civilian Personnel	Media Materials: Stormwater Newsletter
April	Sediments, Nutrients, Bacteria	Housing residents, military and civilian personnel	Traditional Written Materials: Earth Day Interactive Stormwater Display; Facebook
May	Nutrients, Sediment	Housing residents, military and civilian personnel	Media Materials: Newspaper Article in <i>Belvoir Eagle</i>
June	Sediments, Nutrients, Bacteria	Housing residents, military and civilian personnel	Traditional Written Materials: Safety Day Interactive Stormwater Display

The Public Education and Outreach Program will 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). BMP 1.1 will be executed to satisfy the public education and outreach requirements set forth by VPDES Permit #VAR040093, Part I.E.1 (9VAC25-890-40).

### **BMP 1.1 Implement a Public Education and Outreach Program**

- Measurable Goals:** In permit year 1, review and revise the Public Education and Outreach Program to reflect the conditions set forth in the new MS4 permit (VPDES Permit #VAR040093, Part I.E.1.). In permit years 1 - 5, in accordance with the Public Education and Outreach Program, annually utilize two or more of the public education and outreach strategies listed in Part I.E.1.d. Table 1 to communicate to the public the high priority stormwater issues to targeted audiences. In permit years 2 – 5 annually review the Public Education and Outreach Program and revise, as needed.
- Annual Reporting and Record Keeping:** In the annual report, include a list of the education and outreach activities conducted during the reporting period for each high priority water quality issue, the estimated number of people reached and a list of strategies used to communicate

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

each high-priority stormwater issue. Also provide a summary of any revisions that were made to the Public Education and Outreach Program.

- **Responsible Party:** DPW ED

### 8.2 Minimum Control Measure #2: Public Involvement/Participation

Fort Belvoir has developed and implemented procedures for the following (VPDES Permit #VAR040093, Part I.E.2.a.):

- (1) The public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns;
- (2) The public to provide input on the permittee's MS4 program plan;
- (3) Receiving public input or complaints;
- (4) Responding to public input received on the MS4 program plan or complaints; and
- (5) Maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the permittee's response.

Procedures that are being implemented for the public to report potential illicit discharges, improper disposal, or spill to the MS4, complaint regarding land disturbing activities, or other potential stormwater pollution concerns are as follows:

- **Maintenance of Webpage:** In May 2019, Headquarters, Department of the Army (HQDA) required standardization of all Department of the Army Facilities' webpages. HQDA provided a standardized webpage template that is approved for use by all Department of Army facilities. Information for the MS4 Program is required to follow the template that has been provided. Therefore, the MS4 Stormwater Management/Erosion and Sediment Control page is required to be housed within the contents of the Fort Belvoir Home Page. This fulfills the requirement for Fort Belvoir to maintain a webpage dedicated to the MS4 program and stormwater pollution prevention.
- **Receipt of Public Input or Complaints:** The MS4 Stormwater Program Administrator is responsible for ensuring that all permit-required MS4 Stormwater Program documents are posted on the Fort Belvoir website located at:  
<https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division>

As required by VPDES Permit VAR040093, Part I, E.2.b., the following documents are required to be posted: (1) the effective MS4 permit and coverage letter; (2) the most current MS4 program plan or location where the MS4 program plan can be obtained; and, (3) The annual report for each year of the term covered by the permit no later than 30 days after submittal to the department.

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

The MS4 Program Plan remains posted to the website continuously and comments may be submitted on this plan at any time by contacting the MS4 Stormwater Program Administrator. The MS4 Stormwater Program Administrator's contact number and email for reporting, issuing complaints or providing input to documents can be found on the Fort Belvoir webpage and is as follows:

MS4 Stormwater Program Administrator

Telephone: 703-806-3406

Email: [usarmy.belvoir.id-sustainment.mbx.dpw-enrd-stormwater@mail.mil](mailto:usarmy.belvoir.id-sustainment.mbx.dpw-enrd-stormwater@mail.mil)

Draft TMDL Action Plans are posted to the webpage for review and comment for a 15 day public review/comment period as specified in the Permit. Comments may be provided to the MS4 Program Administrator via contact information listed above.

The public may also report potential discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential Stormwater pollution concerns via an exclusive, easy to use, automatic report form. This form has been strategically highlighted in red on the Fort Belvoir Environmental webpage:

<https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division>

Additionally, the public may utilize the Fort Belvoir Environmental Division Facebook page for reporting, issuing complaints or providing input to documents which may be found at <https://www.facebook.com/FortBelvoirEnvironmental/> or by searching @FortBelvoirEnvironmental while on Facebook. Facebook announcements will be made, as needed, when a TMDL Action Plan is available for review and comment and an announcement will be made periodically to notify the public that they can use this avenue to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns.

- **Response to Public Input:** The MS4 Stormwater Program Administrator monitors email and telephone messages daily, Monday – Friday. In the event that the MS4 Stormwater Program Administrator is out of the office, an email message is activated to notify people on who they may contact for immediate response. The DPW Facebook Administrator also monitors Facebook daily, Monday – Friday. When public input is received from the various electronic avenues discussed above, the MS4 Stormwater Program Administrator provides a response via the avenue that the input was received. Within one business day of receipt, an

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

acknowledgement that the response has been received is sent via the avenue that the input was received. A response to comments on all documents for public review and comment is provided within ten business days of receipt. If a complaint is received that warrants an immediate investigation because it has the potential to be an illicit discharge, the complaint is investigated in accordance with the procedures outlined in the Illicit Discharge and Detection Program Plan.

- **Recordkeeping and Reporting:** Comments with responses that are received on the MS4 Program are provided in a summary of any public input for the permit reporting period in the annual report (VPDES Permit #VAR040093, Part I.E.2.f.(1)). Records for Minimum Control Measure #2 are maintained for a minimum of 3 years.

The BMPs identified in this plan as BMP 2.1 through BMP 2.2 will be executed to satisfy the public involvement/participation outreach requirements set forth set forth by VPDES Permit #VAR040093, Part I.E.2 (9VAC25-890-40).

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

- **Measureable Goal:** Maintain the webpage with the following information as required by Part I.E.2.b.: Effective MS4 Permit and coverage letter, most current MS4 Program Plan, annual reports for each year of the term covered by the current permit. Update the MS4 Program Plan at a minimum once per reporting period by 30 June. Post copies of the MS4 Program Plan on the Fort Belvoir webpage at a minimum of once per reporting period. Provide contact information where the public can submit comments on Stormwater Program documents to include MS4 Program Plan and TMDL Action Plans and report illicit discharges, improper disposal or spills to the MS4, complaints regarding land disturbing activities or other potential stormwater concerns. Post copies of each annual report on the Fort Belvoir webpage within 30 days of submittal to the VADEQ and retain copies of annual reports online for the duration of the MS4 permit.
- During permit years 2-5 in order to improve reporting communication, Fort Belvoir will work to create and implement a complaint form on the webpage that allows for direct submittal of a complaint to the MS4 Stormwater Program Administrator and provide responses to comments and concerns directly on the webpage for increase viewership and transparency. Reporting/Complaint form was established in November 2020.
- **Annual Reporting and Record Keeping:** In the annual report, provide a summary of any public input on the MS4 program received (including stormwater complaints) during the reporting period and how the permittee responded and provide the webpage address to the MS4 program and stormwater website.

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- **Responsible Party:** DPW ED will coordinate with the Public Affairs Office (PAO) and the Network Enterprise Center (NEC) to make revisions to the website. DPW ED will maintain records on public input received.

### BMP 2.2 Public Involvement Activities

Part I.E.2.c. of the permit states that the permittee shall implement no less than four activities per year from two or more of the categories listed in Table 2 of the permit to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects. Table 6 identifies anticipated date, category, type of activity and metric for four activities per year (VPDES Permit #VAR040093, Part I.E.2.e.(3)).

**Table 6: Potential Public Involvement Opportunities**

ANTICIPATED DATE	CATEGORY	TYPE OF ACTIVITY	METRIC
April	Restoration	Potomac River Watershed Cleanup and Tree planting	Number of Volunteers; Number of bags of trash collected Number of trees planted
April	Educational Event	Booth at Earth Day	Number of attendees
June	Educational Event	Booth at Safety Day	Number of attendees
October	Restoration	International Coastal Cleanup	Number of Volunteers; Number of bags of trash collected
TBD	Restoration	Public Lands Day Tree planting	Number of Volunteers; Number of trees planted
TBD	Pollution Prevention	Promote the use of residential Stormwater BMP: Pet waste removal	Number of pet waste stations/number of educational signs
TBD	Disposal or Collection Events	Household hazardous chemicals collection	Number of items collected

- **Measureable Goal:** In permit years 1 -5, implement no less than four activities per year from two or more of the categories listed in Permit Part I.E.2.c., Table 2 to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects. Involve 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.

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- ***Annual Reporting and Record Keeping:*** In the annual report, provide a description of the public involvement activities that were implemented during the reporting period and a provide a report of the metric as defined by each activity and an evaluation as to whether or not the activity is beneficial to improving water quality.
- **Responsible Party:** DPW ED

### **8.3 Minimum Control Measure #3: Illicit Discharge Detection and Elimination**

Illicit discharges enter the municipal storm sewer system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies.

The BMPs identified in this plan as BMP 3.1 through BMP 3.3 will be executed to satisfy the illicit discharge detection and elimination requirements set forth by Permit #VAR040093, Part I.E.3 (9VAC25-890-40) to protect receiving water quality.

#### **BMP 3.1 Develop and Maintain an Accurate MS4 Map and Information Table**

Fort Belvoir maintains mapping data for all MS4 outfalls and stormwater management facilities. This mapping data assists Fort Belvoir in determining the spatial location of stormwater system components and enhances Fort Belvoir's ability to locate the receiving waters of a particular stormwater system in the event that a spill or an illicit discharge is identified. The MS4 map includes MS4 outfalls discharging to surface waters, a unique identifier for each mapped item, name and location of receiving waters to which the MS4 outfall or point of discharge discharges, MS4 regulated service area and stormwater management facilities owned by Fort Belvoir (Permit #VAR040093, Part I.E.3.a.(1)(a)-(e)).

Fort Belvoir maintains an information table associated with the MS4 map that includes the following information for each outfall or point of discharge (Permit #VAR040093 Part I.E.3.a.(2)(a)-(h)):

- (1) A unique identifier as specified on the MS4 map;
- (2) Latitude and Longitude of the outfall or point of discharge;
- (3) Estimated regulated acreage draining to the outfall or point of discharge;
- (4) The name of the receiving water;
- (5) The 6<sup>th</sup> order Hydrologic Unit Code of the receiving water;
- (6) Receiving water impairment status;
- (7) Predominant land use for each outfall discharging to an impaired water; and
- (8) The name of the EPA approved TMDL that assigns a wasteload allocation to Fort Belvoir.

The MS4 map and information table is incorporated into the MS4 program plan by reference and is available upon request.

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- **Measurable Goal:** In reporting year 1, review and update existing MS4 map and associated information table. In reporting year 2, no later than July 1, 2019, submit to VADEQ a GIS-compatible shapefile of the MS4 Map or a map as a PDF document (Permit#VAR040093, Part I.E.3.a.(3)). No later than October 1 of each year, update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate reporting period. (Permit#VAR040093, Part I.E.3.a.(4)).
- **Annual Reporting and Record Keeping:** In the annual report, a confirmation statement will be provided 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 period (Permit#VAR040093, Part I.E.3.e.(1)).
- **Responsible Party:** DPW ED and DPW Master Planning

### **BMP 3.2 Prohibit Unauthorized Non-stormwater Discharges into the MS4**

Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/Unauthorized Discharges into the Municipal Separate Storm Sewer System (MS4) and Waterways is the existing policy that prohibits unauthorized non-stormwater discharges into the MS4 (Permit #VAR040093, Part I.E.3.b.)

- **Measurable Goal:** Review, revise, as needed, and obtain Garrison Commander signature on Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/Unauthorized Discharges into the MS4 and Waterways when a new Garrison Commander takes command.
- **Annual Reporting and Record Keeping:** In the annual report, provide narrative on whether new policy memorandum was signed due to change in Garrison Commander.
- **Responsible Party:** DPW ED

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

The IDDE Plan documents IDDE written procedures designed to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge (Permit VAR040093, Part I.E.3.c.). These written procedures include:

- (1) A description of the legal authorities, policies, standard operating procedures or other legal mechanisms available to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities;
- (2) Dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4;
- (3) A timeframe upon which to conduct an investigation to identify and locate the source of any observed unauthorized nonstormwater discharge;

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- (4) Methodologies to determine the source of all illicit discharges;
- (5) Methodologies for conducting a follow-up investigation for illicit discharges that are continuous or are expected to occur more frequently than a one-time discharge to verify that the discharge has been eliminated; and,
- (6) A mechanism to track and document all illicit discharge investigations.
- (7) Quarterly windshield Inspections to detect, identify and eliminate illicit discharges.

The *U.S. Army Fort Belvoir Virginia Illicit Discharge Detection and Elimination Plan June 2015* is a large document and therefore, is incorporated into the MS4 program plan by reference and is available upon request.

- **Measurable Goals:** In permit year 1, review and revise the IDDE Plan, as needed, and implement the plan. In permit years 1 – 5, implement the five year plan.
- **Annual Reporting and Record Keeping:** Document activities conducted and in the annual report, provide a summary of the total number of outfalls screened during the reporting period as part of the dry weather screening program and a list of illicit discharges to the MS4 including spills reaching the MS4. Information for each illicit discharge will include the following: source of illicit discharge, dates the discharge was observed, reported or both; how the discharge was discovered (dry weather screening, reported by the public, or other method), how the investigation was resolved, description of any follow-up activities and the date the investigation was closed. (Permit #VAR040093, Part I.E.3.e.(2)-(3))
- **Responsible Party:** DPW ED

#### **8.4 Minimum Control Measure #4: Construction Site Stormwater Runoff Control**

Fort Belvoir is not required to operate an approved Virginia Erosion and Sediment Control Program (VESCP) and in accordance with Department of Army guidance has not developed standards and specifications for Virginia Department of Environmental Quality review and approval. Therefore, Virginia Department of Environmental Quality is the VESCP authority for Fort Belvoir. Under VADEQ VESCP Authority, Fort Belvoir is required to submit to VADEQ for review and approval an Erosion and Sediment Control Plan for land disturbing projects that are equal to and greater than 10,000 square feet.

All applicable guidance documents are made available to all designers, project proponents, contract specialist, and construction contractors during the Environmental Division project review process and are also posted on the Fort Belvoir website @ <https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division>

Additionally, prior to start of construction, for projects resulting in land disturbance equal to or greater than 10,000 square feet, construction contractors are required to attend a pre-construction training that is conducted by DPW ED that reviews ESC inspection expectations, common violations seen during an inspection, and the progressive compliance enforcement strategy.

DPW ED ESC plan reviewer conducts project review for projects that result in land disturbance equal to or greater than 2,500 square feet to assess any immediate impacts to MS4 and Industrial Stormwater outfalls to maintain compliance with Chesapeake Bay Total Maximum Daily Loads (TMDLs). Projects between 2,500 square feet and less than 10,000 square feet is required to follow applicable ESC standards but are not required to provide an extensive ESC plan.

Construction/maintenance/utility projects resulting in land disturbance equal to or greater than 10,000 square feet are required to develop an Erosion and Sediment Control Plan to comply with the 19 Virginia Minimum Standards (9VAC25-840-40).

A plan review status spreadsheet is maintained internally to track internal comment review period deadlines, ensure plan review comments are adequately addressed and to track acreages of disturbance.

*The Fort Belvoir Directorate of Public Works, Municipal Separate Storm Sewer System (MS4) Program Bulletin #1: Stormwater Management (SWM) and Erosion and Sediment Control (ESC) Design, Review and Plan Approval Procedures and SWM and ESC Compliance Procedures during*

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*Construction* outlines specific requirements of the Erosion and Sediment Control Plan requirements.

Contractors for all construction/maintenance projects resulting in land disturbance equal to or greater than one acre are required to obtain a project-specific CGP from VADEQ prior to start of construction. Construction contractors for linear projects that are not covered under VADEQ approved Standards and Specifications resulting in land disturbance equal to or greater than one acre are also required to obtain a project-specific CGP from VADEQ prior to start of construction.

Routine maintenance projects are exempt from obtaining a CGP if the project meets the exemption guidelines published in the Virginia Stormwater Management Act §62.1-44.15:34, i.e. “routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original construction of the project.”

DPW 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: VADEQ Plan and CGP approval letters, project-specific stormwater pollution prevention plan (if required), Responsible Land Disturber certification and DPW Excavation Permit.

Prior to start of construction, for projects resulting in land disturbance equal to or greater than 10,000 square feet, construction contractors are required to attend a pre-construction training that is conducted by DPW ED that reviews ESC inspection expectations, common violations seen during an inspection, and the progressive compliance enforcement strategy.

Once construction begins, DPW ED utilizes Virginia State Certified ESC/SWM Inspectors to complete inspections of ongoing projects as per Part I.E.4.a.(4). (a)-(d) unless an alternate schedule is warranted as described under BMP 4.2 below. DPW ED Inspectors use standardized forms such as an ESC/SWM Inspection Checklists in order to identify deficiencies and track repeat violations for construction activities that may require enforcement actions.

The BMPs identified in this plan as BMP 4.1 through BMP 4.3 will be executed to satisfy the construction site runoff control requirements set forth by Permit #VAR040093, Part I.E.4 (9VAC25-890-40).

### **BMP 4.1      Communicate the Requirements of the MS4 Program**

DPW ED has a number of documents (Appendix C) that are reviewed and revised a minimum of once per year, as needed to communicate requirements of the MS4 program to government staff, project proponents, designers, and construction contractors. These documents include:

- (1) **Fort Belvoir Directorate of Public Works, Municipal Separate Storm Sewer System (MS4) Program Bulletin #1: Stormwater Management (SWM) and Erosion and Sediment Control (ESC) Design, Review and Plan Approval Procedures and SWM and ESC Compliance Procedures during Construction;**
  - (2) **Fort Belvoir Directorate of Public Works, Erosion and Sediment Control Technical Bulletin #1: Dewatering Operations**
  - (3) **Fort Belvoir Directorate of Public Works, Erosion and Sediment Control Technical Bulletin #2: Stormwater Pollution Prevention Plan Requirements;**
  - (4) **Fort Belvoir Directorate of Public Works, Erosion and Sediment Control Technical Bulletin #3: Erosion and Sediment Control Requirements for Utility Installation**
  - (5) **Fort Belvoir Directorate of Public Works, Erosion and Sediment Control Technical Bulletin #4: Stormwater Pollution Prevention Requirements for Small Projects and Renovation Projects**
- **Measurable Goal:** Annually review and update MS4 documents for distribution, conduct pre-construction training, as needed and update the Fort Belvoir website with revised documents within 30 days of revision.
  - **Reporting and Record Keeping:** In the annual report, provide a summary of any reviews and updates of documents that were completed and the number of pre-construction meetings conducted.
  - **Responsible Party:** DPW ED

#### **BMP 4.2 Erosion and Sediment Control (ESC) Site Inspections**

Active construction sites that involve land disturbance of 10,000 square feet or greater are inspected during or immediately following initial installation of erosion and sediment controls, once every two weeks and within 48 hours of a storm event producing a 1/2 (.50) inch of rain or greater and at the completions of the project prior to project closeout. Rainfall data is obtained from the Weather Underground website which has a weather station located at Fort Belvoir that is named "Tony's Weather Station" (<https://www.wunderground.com/dashboard/pws/KVAFORTB4>) to determine when inspections are required after a storm event. A storm event is defined as a continuous time frame for which precipitation does not stop accumulating and has the potential to produce runoff. A storm event may last from several hours to a couple days and come at different intensities. In general inspections will commence at the end of a storm event.

All inspections are documented using the Fort Belvoir Erosion and Sediment Control Inspection Report (Appendix C). ESC inspection reports are distributed electronically to all appropriate project personnel within two (2) business days of the inspection via email. ESC inspections may be temporarily suspended or conducted less frequently under the following conditions:

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- A storm event ends after hours on a Friday or during the weekend, the post-storm inspection will be completed on the next business day (Monday). Construction site personnel, DPW government personnel, and contracted inspectors are unavailable because the government is closed for business on Saturday or Sunday and the construction site remains inactive.
- The ESC inspections will be temporarily suspended in winter months during times when the ground is frozen until the ground thaws and runoff would be expected to occur.
- A less frequent inspection schedule (minimum of one inspection/month) will be implemented if a construction project has temporarily suspended any activity and the site is stabilized until such time that the project resumes land disturbance activity.
- A less frequent inspection schedule (minimum of one inspection/month) will be implemented if a construction project has completed all land disturbing activity and is awaiting final stabilization.

All ESC Inspectors, whether Government or Contracted staff, maintain VADEQ Certificates of Competence for Project Inspector for Erosion and Sediment Control.

- **Measurable Goal:** Perform site inspections of 100% of active construction sites that involve land disturbance of 10,000 square feet or greater.
- **Annual Reporting and Record Keeping:** In the annual report, provide a summary of the total number of ESC inspections conducted in the MS4 regulated service area for construction sites that involve land disturbance of 10,000 square feet or greater (VPDES Permit #VAR040093, Part I.E.4.d.(2)).
- **Responsible Party:** DPW ED

### **BMP 4.3 Progressive Compliance and Enforcement Strategy**

Fort Belvoir implements the following compliance and enforcement strategy, as shown in Table 7, to ensure that contractors are conducting land disturbance responsibly and in accordance with Virginia Department of Environmental Quality (VADEQ) stormwater (SWM) and erosion and sediment control (ESC) regulations. This strategy is also published in the *Fort Belvoir Directorate of Public Works, Municipal Separate Storm Sewer System (MS4) Program Bulletin #1: Stormwater Management (SWM) and Erosion and Sediment Control (ESC) Design, Review and Plan Approval Procedures and SWM and ESC Compliance Procedures during Construction* to provide construction contractors with DPW EDs compliance expectations.

- **Measurable Goal:** Implement the compliance and enforcement strategy when construction contractors have repeated non-compliance findings on bi-weekly erosion and sediment control inspections on an active construction site.

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- **Annual Reporting and Record Keeping:** In the annual report, provide a summary of enforcement actions taken to include the total number and type of enforcement actions taken (VPDES Permit #VAR040093, Part I.E.4.d.(3))
- **Responsible Party:** DPW ED, Contracting Officer Representatives, Garrison Commander (as needed), VADEQ (as needed for Compliance Assistance)

**Table 7: USAG, Fort Belvoir's Compliance and Enforcement Strategy**

Non-Compliance Item	DPW ED Action
Failure to obtain a Land Disturbance Letter prior to start of construction projects involving land disturbance of 2,500 square feet or greater.	Email notice of Non-Compliance sent to the Contracting Officer (CO); Document in ESC inspection report.
Failure to obtain a Construction General Permit (CGP) and/or an approved SWM and/or ESC plan from VADEQ prior to start of construction projects involving land disturbance of 10,000 square feet or greater.	Email notice of Non-Compliance sent to the Contracting Officer (CO); VADEQ Northern Regional Office notified via telephone within 24 hours of discovery.
Failure to provide copies of approved SWM and/or ESC plans, CGP authorization letter, SWPPP and/ or Responsible Land Disturber certification to DPW ED.	Email notice of Non-Compliance sent to the Contracting Officer's Representative (COR); Land Disturbance letter not issued by DPW until approved plans, permits, SWPPP and Responsible Land Disturber certification are received by DPW ED.
Non-compliance with ESC minimum standards (9VAC25-840-40), failure to update SWPPP, failure to install ESC measures as a first step before any land disturbance; failure to store construction materials correctly.	<p><u>1<sup>st</sup> violation:</u> DPW ED Inspector notes on ESC inspection report with corrective action due date and contractor is expected to complete the corrective action by the due date;</p> <p><u>2<sup>nd</sup> violation:</u> Email warning notice sent to the Contract Representative from the MS4 Stormwater Program Administrator;</p> <p><u>3<sup>rd</sup> violation:</u> Warning Letter sent to the Contract Representative signed by the Director of Public Works; A courtesy copy of the report will be provided to VADEQ staff administering the CGP (or ESC) program oversight.</p> <p><u>4<sup>th</sup> violation:</u> Notice of Non-Compliance sent to the Contract Representative signed by the Garrison Commander;</p> <p><u>5<sup>th</sup> repeat violation:</u> Referred to VADEQ for compliance assistance.</p>
Release of any substance causing a reportable spill (including concrete wash out, paint runoff, or excess sediment).	DPW Director notified and email warning notice sent to the Contract Representative.

### **8.5 Minimum Control Measure #5: Post-Construction Runoff Control**

Fort Belvoir is not required to operate an approved Virginia Stormwater Management Program (VSMP) and in accordance with Department of Army guidance has not developed standards and specifications for Virginia Department of Environmental Quality review and approval. Therefore, Virginia Department of Environmental Quality (VADEQ) is the VSMP authority for Fort Belvoir. Under VADEQ VSMP Authority, Fort Belvoir is required to submit to VADEQ for review and approval Stormwater Management Plans for land disturbing projects that are equal to and greater than one acre.

DPW ED Stormwater program administrator/plan reviewer conducts project review for projects that result in land disturbance equal to or greater than 2,500 square feet to assess any cumulative impacts, impacts to MS4 and Industrial Stormwater outfalls and stormwater management facilities, and Energy Independence and Security Act Section 438 (EISA 438) applicability.

Land disturbing projects that involve the construction of a federal facility with a footprint that exceeds 5,000 square feet are required to develop a stormwater management plan which demonstrates that the development or redevelopment project maintains or restores the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow to the maximum extent technically feasible. For determining whether EISA 438 has been adequately addressed, DPW ED Stormwater program administrator/plan reviewer uses the U.S. Environmental Protection Agency's *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act*.

Construction/maintenance/utility projects resulting in land disturbance equal to or greater than one acre are required to develop a Stormwater Management Plan for submittal to VADEQ.

A plan review status spreadsheet is maintained internally to track internal comment review period deadlines, ensure plan review comments are adequately addressed, to track acreages of disturbance and applicability of EISA 438. The *Fort Belvoir Directorate of Public Works, Municipal Separate Storm Sewer System (MS4) Program Bulletin #1: Stormwater Management (SWM) and Erosion and Sediment Control (ESC) Design, Review and Plan Approval Procedures and SWM and ESC Compliance Procedures during Construction* outlines specific requirements of the Stormwater Management Plan requirements.

Stormwater management facilities on active construction sites that involve land disturbance of one acre or greater are inspected periodically during installation/construction of the permanent facility concurrently with the erosion and sediment control inspections and at the final closeout

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inspection. All inspections are documented using a combined Erosion and Sediment Control/Stormwater Management Inspection Report. These inspection reports are distributed to all appropriate project personnel within two (2) business days of the inspection. All Stormwater Management Inspectors, whether Government or Contracted staff, maintain VADEQ certificates of competence for Project Inspector for Stormwater Management.

Fort Belvoir has developed written inspection and maintenance procedures, *General Plan for Stormwater Management Facility Inspection and Maintenance* dated September 2013, revised on June 30, 2014 and updated in September 2019 in order to ensure adequate long-term operation and maintenance of stormwater management facilities (VPDES Permit #VAR040093, Part I.E.5.b.(1). This document is incorporated into the MS4 program plan by reference and is available upon request.

For post-construction management of stormwater management facilities, Fort Belvoir maintains an EXCEL spreadsheet of all known stormwater management facilities that discharge into the MS4. Stormwater management facilities on Fort Belvoir are annually inspected (VPDES Permit #VAR040093, Part I.E.5.b. (2)) by the Directorate of Public Works, Operations and Maintenance Division through an operations and maintenance contract that is valid for five years. The current contract has a period of performance from September 7, 2018 – October 6, 2023. Fort Belvoir will be considering an alternative inspection schedule during the first year of this permit cycle for privately owned and operated stormwater management facilities located within the leased are of the privatized housing partner, Fort Belvoir Residential Communities Initiative (RCI) and also for specific types of facilities. The Operations and Maintenance Division contractor will be tasked each year with re-inspecting a portion the privately owned Fort Belvoir Residential Communities Stormwater Management Facilities to ensure regulatory compliance. The MS4 Program Plan will be revised during the first year of the permitting cycle once the inspection and maintenance plan is reviewed and revised.

All Fort Belvoir stormwater management facilities that are covered under the DPW O&M contract are maintained by the O&M contractor. Tenant commands that are not covered under the DPW O&M contract conduct their own maintenance of stormwater management facilities within their secure facilities. Responsibilities required for tenant commands to maintain stormwater management facilities in accordance with the MS4 permit requirements are specified in Inter Service Support Agreements (ISSA) that are maintained by the Directorate of Resources Management. Additionally, the privatized housing partner, Residential Communities Initiative (RCI) also conducts maintenance of the stormwater management facilities that they own within their leased area. Responsibilities are outlined in a Ground Lease Agreement and the document is maintained by the Master Planning Division, Directorate of Public Works.

Compliance and enforcement procedures for failure to maintain stormwater management facilities are as follows: When the DPW annual inspection notes a deficiency on facilities not maintained by DPW O&M, the inspection report and deficiency is forwarded to the appropriate tenant command or RCI for maintenance of the facility. The tenant command/RCI will be given 30 days to respond with a schedule of when the maintenance will be completed. If personnel fail to respond to initial notification, then DPW ED will prepare an official warning letter for the Garrison Commander's signature to be sent to the tenant command. Lastly, if these courses of action fail to get results, DPW Environmental will use the chain of command and forward deficiencies up to higher command level for action.

BMP 5.1 through BMP 5.2 will be executed to satisfy the post-construction runoff control requirements set forth by VPDES Permit #VAR040093, Part I.E.5.(9VAC25-890-40).

**BMP 5.1 Maintain an Electronic Database or Spreadsheet (VPDES Permit #VAR040093, Part I.E.5.d.)**

- **Measurable Goals:** Maintain an EXCEL spreadsheet of all known stormwater management facilities that discharge into the MS4 at the DPW Environmental Division office. This spreadsheet is incorporated by reference. The database includes all BMPs implemented by the permittee to meet the Chesapeake Bay TMDL load reduction and includes information regarding the type of facility/BMP, the latitude and longitude, the total number of acres treated by the facility/BMP to include a breakdown of pervious and impervious acres, the date the facility was brought online, the sixth order hydrologic unit (HUC) code and the name of any impaired water segments within each HUC listed, whether the stormwater management facility or BMP is owned or operated by Fort Belvoir or another entity such as privatized housing or a tenant command, whether or not the stormwater management facility or BMP is part of the Chesapeake Bay TMDL Action Plan or Local TMDL Action Plan or both, whether a maintenance agreement exists for privately owned stormwater management facilities or BMPs and date of most recent inspection (VPDES Permit #VAR040093, Part I.E.5.d.(1) – (9)). The electronic database or spreadsheet will be updated no later than 30 days after a new stormwater management facility is brought online, a new BMP is implemented to meet a TMDL load reduction or discovered if it is an existing stormwater management facility (VPDES Permit #VAR040093, Part I.E.5.e.).
- **Annual Reporting and Record Keeping:** Use the VADEQ Construction Stormwater Database or other application as specified by VADEQ to report each stormwater management facility installed after July 1, 2014 to address the control of post-construction runoff from land disturbing activities that are required to obtain a General

VPDES Permit for Discharges of Stormwater from Construction Activities (CGP) (VPDES Permit #VAR040093, Part I.E.5.f.). No later than October 1 of each year, electronically report the stormwater management facilities and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated template for any stormwater management facilities and BMPs that were installed to control post-development stormwater runoff from land disturbing activities less than one acre and for which a CGP was not required (VPDES Permit #VAR040093, Part I.E.5.g.). Provide confirmation statements that stormwater management facilities (BMPs) were electronically reported (VPDES Permit #VAR040095, Part I.E.5.i.(4)-(5))

- **Responsible Party:** DPW ED

#### **BMP 5.2 Conduct Annual Inspections and Maintenance of Storm Water Management Facilities**

- **Measurable Goals:** In permit year 1, maintain written inspection and maintenance procedures by reviewing and revising, as necessary, the *General Plan for Stormwater Management Facility Inspection and Maintenance* (VPDES Permit #VAR040093, Part I.E.5.b.(1)). Permit years 1 – 5, conduct inspections and maintenance in accordance with the general plan.
- **Annual Reporting and Record Keeping:** In the annual report, provide the number of enforcement actions initiate to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action (VPDES Permit #VAR040093, Part I.E.5.i.(b)) during the reporting period; provide a narrative of total number of inspections conducted with a breakdown of number of privately owned stormwater management facility inspections (RCI owned and operated facilities) and DPW stormwater management facilities (VPDES Permit #VAR040093, Part I.E.5.i.(1)(a) and (2)) during the reporting period; and, provide a description of the significant maintenance, repair or retrofit activities performed on all stormwater management facilities (does not include routing activities such as grass mowing or trash collection(VPDES Permit #VAR040093, Part I.E.5.i.(b)(3)) during the reporting period.
- **Responsible Party:** DPW Environmental Division, DPW O&M Division, RCI, tenant commands

## **8.6 Minimum Control Measure #6: Pollution Prevention/Good Housekeeping for Municipal Operations**

The BMPs identified in this plan as BMP 6.1 through BMP 6.4 will be executed to satisfy the pollution prevention/good housekeeping for municipal operations requirements set forth by Permit #VAR040093, Part I. E.6 (9VAC25-890-40).

The Operations and Maintenance (O&M) activities for the Installation are contracted through the Mission and Installation Contracting Command (MICC). The MICC issued contract W91QV118D0007 that incorporates any needed work for O&M of the installation which is also referred to as the Base Ops Contract. The Base Ops Contract specifies all requirements and standards, work management, and personnel qualifications and certification requirements. The Defense Acquisition Regulations prescribe Clauses that are incorporated in the Base Ops Contract, which specify compliance measures. The Overarching Performance Work Statement (PWS) specifies the overarching contract requirements that apply for all Attachments and Technical Exhibits (TEs). The PWS requires on Contract Line Item 2.21.2 Environmental Compliance: "The Contractor shall comply with all Federal, State, local and installation environmental laws, rules, and plans."

Requirements for MCM #6 are addressed in Attachment #6 – 420, Facility Maintenance Horizontal, Attachment #4 – 408 Pavement Clearance, and Attachment #5 Facility Maintenance – Vertical. Associated with these contract attachments are Technical Exhibits (TEs) that specify the details of each aspect of the work, which includes, but not limited to applicable BMPs, inspection forms and plans, maps, requirements and deliverables.

The contract is directly overseen by the Contracting Officer Representative (COR) and Contract Performance Specialists that monitor contract performance and deliverables as their primary duty. The COR is in frequent contact with the Contracting Officer at the MICC for contract performance reporting and to discuss issues with the contract. Contract Deliverables have to be received and performed work has to be accepted in order for payment to be made. The Contract Performance Specialists inspect randomly selected lots and can reject the entire lot, if work on one or more of the samples of the lot is unacceptable. The COR can submit Contractor Deficiency Reports (CDRs) if work is not being performed in accordance with the contract which are being submitted to the Contracting Officer for further action.

Deliverables of regulatory required reports, data, and deliverables are also being submitted to the respective Program Manager (PM) for review and acceptance. If they are acceptable, then the PM will notify the COR that the deliverables were accepted. If they are found to be deficient, the PM will contact the COR to request and obtain compliant information, data, and deliverables. The ultimate enforcement of the contract is through the Contracting Officer at the MICC.

**BMP 6.1 Written Procedures for Operations and Maintenance Activities**

Operations and Maintenance activities are accomplished by the DPW Operations and Maintenance (O&M) Division through an operations and maintenance contract that is valid for five years. The current contract has a period of performance from September 7, 2018 - October 6, 2023 and has technical exhibits that list roads and parking lots that need to be swept and require salt application during a snow event along with a prioritization schedule. Tenant commands that are not covered under the DPW O&M contract conduct their own operation and maintenance (facility maintenance, pavement clearance (snow removal) and grounds maintenance) within their facilities as specified in Interagency Agreements (IAA) that are maintained by the Directorate of Resources Management. Additionally, Fort Belvoir Residential Communities Initiative (RCI), the privatized housing partner, also conducts their own operations and maintenance of the housing units located on Fort Belvoir as outlined in a ground lease agreement that is maintained by the Master Planning Division, Directorate of Public Works.

Because there is not one consolidated O&M Division operating on Fort Belvoir, DPW Environmental Division 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. Each fact sheet contains a description of the activity, guidelines that identify best management practices for stormwater pollution prevention, any maintenance, if required, and spill response procedures. When O&M activities not covered under an existing BMP fact sheet are discovered to be contributing to stormwater pollution, fact sheets are developed for a particular activity. To date fact sheets have been developed that address the following activities:

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

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These BMP Fact Sheets are incorporated into the MS4 program plan by reference and are available upon request.

- **Measureable Goals:** No later than June 30<sup>th</sup> of each year, annually review BMP Fact Sheets and revise as needed. Within 90 days of identification of a new activity/process that contributes to stormwater pollution, develop and distribute process-specific BMP Fact Sheet.
- **Annual Reporting and Record Keeping:** In the annual report, provide a summary of any BMP Fact Sheets that were revised and/or any new BMP Fact Sheets that were developed during the reporting period.
- **Responsible Party:** DPW ED, DPW O&M Division, Personnel of Various Contractors/Tenant Commands/Privatized Housing Partner

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

Permit #VAR040093, Part I.E.5.b requires Fort Belvoir to identify which of the high-priority facilities have a high potential to discharging pollutants within 12 months of state permit coverage (by October 31, 2019). For each facility identified, a site specific stormwater pollution prevention plan is required to be maintained and implemented. High-priority facilities (HPF) are defined as facilities that have a high potential for discharging pollutants and includes those facilities that are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff (Permit #VAR040093, Part I.E.5.b.):

- (1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
- (2) Materials or residuals on the ground or in stormwater inlets from spills or leaks;
- (3) Material handling equipment;
- (4) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);
- (5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
- (6) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
- (7) Waste material except waste in covered, non-leaking containers (e.g., dumpsters);
- (8) Application or disposal of process wastewater (unless otherwise permitted); or
- (9) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.

Under the previous permit cycle (1 July 2013 – 31 October 2018), a modified Virginia DEQ No Exposure Certification Form was used to determine and document whether individual sites are defined as a HPF or if they can be considered for the non-exposure exemption. Sites that were evaluated to have a high chance to discharge pollutants received a HPF ID number and facility-specific SWPPPs were developed.

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Table 8 summarizes the MS4 high priority facilities identified by Fort Belvoir during the last permit cycle that are not covered under a separate VPDES permit as required by the MS4 permit. It provides the High-Priority Facility (HPF) Identifier (ID) for sites that did not meet the modified non-exposure exemption, the facility name. All HPFs will be reevaluated for the non-exposure exemption as well as their potential to discharge pollutants annually.

**Table 8: MS4 High Priority Facilities**

<b>MS4 HPF ID</b>	<b>Facility Name</b>	<b>Outfall</b>	<b>2020 Exposure Determination</b>	<b>SWPPP Development Status</b>	<b>2019-2020 Recommendations</b>
MS4 HPF-001	Golf Course	5788	<b>Low Potential to Discharge</b>	Complete	<b>Close SWPPP under MS4;</b> expand ISW SWPPP for the Golf Course RO-009 to cover entire facility
MS4 HPF-002	AAFES	7290	<b>High Potential to Discharge</b>	Complete	<b>No changes to SWPPP;</b> Maintain increased inspection schedule and routine windshield inspections of the area
MS4 HPF-003	DLA Contract Yard	5581	Non- Exposure	Complete	<b>No changes to SWPPP;</b> maintain to encourage current compliance status
MS4 HPF-004	AMSA 91 Motorpool	3356	Non- Exposure	Complete	<b>No changes to SWPPP;</b> maintain to encourage current compliance status
MS4 HPF-005	Caisson Stables	9000	<b>Low Potential to Discharge</b>	Complete	<b>No changes to SWPPP;</b> maintain to encourage current compliance status
MS4 HPF-006	Auto Skills Center	2996	<b>Low Potential to Discharge</b>	Complete	<b>No changes to SWPPP;</b> maintain to encourage current compliance status
MS4 HPF-007	Theote Road Yard	2025	<b>Low Potential to Discharge</b>	Complete	<b>No changes to SWPPP;</b> maintain to encourage current compliance status
MS4 HPF-008	Housing Annex	2176	<b>Low Potential to Discharge</b>	Complete	<b>No changes to SWPPP;</b> maintain to encourage current compliance status
MS4 HPF-009	Bowling Alley	Unknown	<b>High Potential to Discharge</b>	Completed	<b>Review Grease/Trash Management Procedures, Expand Training, and/or Develop a SWPPP</b>

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MS4 HPF ID	Facility Name	Outfall	2020 Exposure Determination	SWPPP Development Status	2019-2020 Recommendations
					Provide facility with placards for grease and trash management
MS4- HPF 010	Hospital	Unknown	<b>High Potential to Discharge</b>	Completed	<b>Expand Training to the Hospital Maintenance Crews and/or develop a SWPPP</b>
Not Assigned	Burger King	Unknown	Non- Exposure	Not Required	<b>Provide facility with placards for grease and trash management</b>
Not Assigned	Community Center	Unknown	Non- Exposure	Not Required	<b>Provide facility with placards for grease and trash management</b>

Stormwater pollution prevention plans are required to include the following (Permit VAR040093, Part I.E.6.d.):

- (1) A site description that includes a site map identifying all outfalls, direction of stormwater flows, existing source controls, and receiving water bodies;
- (2) A description and checklist of the potential pollutants and pollutant sources;
- (3) A description of all potential nonstormwater discharges;
- (4) Written procedures designed to reduce and prevent pollutant discharge;
- (5) A description of the applicable training;
- (6) Procedures to conduct an annual comprehensive site compliance evaluation;
- (7) An inspection frequency of no less than once per year and maintenance requirements for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP; and
- (8) A log of each unauthorized discharge, release, or spill incident reported;

- **Measureable Goals:** Within 12 months of permit coverage (31 October 2019), re-evaluate high-priority facilities and identify which HPFs have a high potential for discharging pollutants (Permit #VAR040093, Part I.E.6.c.). For all HPFs identified, review existing SWPPPs to determine if all SWPPP requirements specified in Permit #VAR040093, Part I.E.6.d. are addressed. From November 1, 2019 – 31 October 2023, implement SWPPPs. No later than June 30 of each year, Fort Belvoir will annually review any high-priority facility for which a SWPPP has not been developed to determine if the facility has a high potential to discharge pollutants. If the facility is determined to be a high-priority facility with a high potential to discharge pollutants, a SWPPP will be developed no later than December 31 of that same year.

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- **Annual Reporting and Record Keeping:** In the annual report, provide a summary of any new SWPPPs developed during the reporting period and any SWPPPs modified or the rationale of any high priority facilities delisted during the reporting period.
- **Responsible Party:** DPW ED, Facility Operators

### BMP 6.3 Implement Nutrient Management Plans

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. The Certified Turf and Landscape Management Planner is located in the DPW Environmental Division, Conservation Branch. 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. Nutrient Management Plans are valid for three years and are reviewed and updated, as needed. A list of lands for which turf and landscape nutrient management plans are required is provided in Table 9 below.

**Table 9: Nutrient Management Plan Data**

DATE OF PLAN	LOCATION	ACREAGE
June 29, 2019	Fort Belvoir Residential Communities Initiative – A (Cedar Grove, Colyer, Gerber, Herryford, Lewis, Vernondale Villages)	61.0 acres
June 29, 2019	Fort Belvoir Residential Communities Initiative – B (Belvoir, Jadwin, Fairfax, Park, Rossell Villages)	54.0 acres
March 20, 2020	Fort Belvoir Residential Communities Initiative – C (Dogue Creek, Washington, River, Woodlawn Villages)	70.0 acres
June 29, 2019	Fort Belvoir Golf Club	119.0 acres
March 19, 2020	DLA/DCAA Headquarters Complex	33.0 acres
March 18, 2020	Missile Defense Agency Headquarters	4.4 acres
March 18, 2020	National Geospatial-Intelligence Agency Campus East	39.0 acres

In General, if nutrients are being applied to achieve final stabilization of a land disturbance project, application of fertilizer follows the manufacturer's recommendations.

The Nutrient Management Plans are incorporated into the MS4 program plan by reference and are available upon request.

- **Measureable Goals:** Develop new Nutrient Management Plans for new facilities that have lands where nutrients are applied to a contiguous area greater than one acre, as needed for the term of the MS4 permit. Review and update existing Nutrient Management Plans every three years, as needed, for the term of the MS4 permit.

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- ***Annual Reporting and Record Keeping:*** In the annual report, provide a summary of any new turf and landscape nutrient management plans developed that includes the location and total acreage of each land area and the date of the approved nutrient management plan. In the annual report, provide a summary of the existing plans that were review and updated during the reporting period.
- ***Responsible Party:*** DPW ED

### **BMP 6.4      Revise and Implement Written Training Plan**

The Fort Belvoir Stormwater Pollution Prevention Training Plan has been written to ensure the following (Permit #VAR040093, 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 Fort Belvoir Combined Industrial Stormwater (ISW) and Municipal Separate Storm Sewer System (MS4) Stormwater Pollution Prevention Training Plan May 2019 is a large document and therefore, is incorporated into the MS4 program plan by reference and is available upon request. The current training plan manages certifications for employees meeting the qualification described in (1)-(6) above.

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Spill Response training is provided and documented by the Spill Response Program Manager and Directorate of Emergency Services (DES).

- **Measurable Goals:** In permit year 1, review and revise, as needed, the existing written training plan. For the permit term, implement the training plan.
- **Annual Reporting and Record Keeping:** In the annual report, submit a summary to include a list of training events conducted during the reporting period, the date of the training event, the number of employees who attended the training event and the objective of the training (Permit #VAR040093, Part I.E.6.q.(5)).
- **Responsible Party:** DPW and DES

## 9. TOTAL MAXIMUM DAILY LOAD (TMDLs) Waste Load Allocation (WLA)

Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency's Water Quality Planning and Management Regulations (40 CFR Part 30) direct States to establish a Total Maximum Daily Load (TMDL) for water bodies that are exceeding water quality standards. TMDLs represent the total pollutant loading that a waterbody can receive without violating water quality standards. The TMDL process establishes the allowable loadings of pollutants (waste load allocation (WLA)) needed to achieve and maintain water quality standards. Section (d)(1)(vii)(B) of 40 CFR §122.44 requires that all new or revised National Pollutant Discharge Elimination System (NPDES) permits to be consistent with assumptions and requirements of any applicable TMDL WLA.

The Commonwealth of Virginia, Virginia Department of Environmental Quality (VADEQ) regulates the management of pollutants carried by stormwater runoff under the Virginia Pollutant Discharge Elimination System (VPDES) program. TMDL WLAs are specifically addressed through the iterative implementation of programmatic Best Management Practices (BMPs).

The special conditions found within the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems at 9VAC-25-890-40 Part II are stated as follows:

*"The MS4 program plan as required by Part I B of this permit shall incorporate each local TMDL action plan. Local TMDL action plans may be incorporated by reference into the MS4 program plan provided that the program plan includes the date of the most recent local TMDL action plan and identification of the location where a copy of the local TMDL action plan may be obtained"*

Table 10 summarizes the TMDLs that have been issued and their applicability to Fort Belvoir MS4.

**Table 10: TMDLs Issued applicable to USAG Fort Belvoir**

Name of Document	Document Date	Waste Load Allocation (WLA) for Regulated Stormwater (MS4)	Percent Reduction (%)
Total Maximum Daily Loads of Polychlorinated Biphenyls (PCBs) for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland and Virginia	September 28, 2007; revised October 31, 2007	Accotink Bay 0.0992 g PCBs/year Dogue Creek 20.2 g PCBs/year Gunston Cove 0.517 g PCBs/year Pohick Creek/Pohick Bay 13.5 g PCBs/year	92.0 65.7 87.1 61.2
Bacteria TMDL for the Lower Accotink Creek Watershed	September 2008	1.76E+12 cfu/year	97.00

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Name of Document	Document Date	Waste Load Allocation (WLA) for Regulated Stormwater (MS4)	Percent Reduction (%)
TMDL for Benthic Impairments in the Accotink Watershed (Fairfax County, City of Fairfax and Town of Vienna, Virginia)	April 18, 2011	This TMDL established by the United States Environmental Protection Agency, Region III was overturned in the U.S. District Court on January 3, 2013 and is not applicable.	N/A
Volume III Chloride TMDLs for the Accotink Creek Watershed, Fairfax County, Virginia	August 30, 2017	Aggregate MS4 WLA of 3,294,323 lbs/year for Lower Accotink Creek	N/A
Volume II Sediment TMDLs for the Accotink Creek Watershed, Fairfax County, Virginia	August 30, 2017	235 tons/year	55
Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorous and Sediment	December 29, 2010	USAG Fort Belvoir was not assigned an individual WLA	N/A

### **9.1 Chesapeake Bay TMDL for Nitrogen, Phosphorous and Sediment:**

The *Chesapeake Bay TMDL for Nitrogen, Phosphorous and Sediment* dated December 29, 2010 did not assign an individual WLA to Fort Belvoir. In response to this TMDL, the U.S. Environmental Protection Agency required the individual States to submit Watershed Implementation Plans. The Commonwealth of Virginia developed and submitted the following watershed implementation plans (WIP) to address the Chesapeake Bay TMDL:

- Phase I Chesapeake Bay TMDL Watershed Implementation Plan , November 29, 2010
- Phase II Chesapeake Bay TMDL Watershed Implementation Plan, March 30, 2012

The Phase II WIP identified strategies for federal facilities which included:

- In accordance with Executive Order (EO) 13514, Section 438 of Energy Independence and Security Act (EISA) and EO 13508, all federal facilities are to demonstrate leadership and commitment to controlling pollution, leveraging expertise and resources to contribute significantly to improving the health of the Chesapeake Bay.
- Virginia, Department of Defense and other federal agencies will jointly develop a Memorandum of Understanding to formalize commitment to leading by example in meeting Chesapeake Bay water quality goals and achieving the necessary reductions.
- Virginia will utilize MS4 permits to ensure that BMP implementation on existing developed regulated federal lands achieves nutrient and sediment reductions equivalent to Level 2 scoping run reductions by 2025. Level 2 (L2) implementation equates to an average reduction of 9 percent of nitrogen loads, 16 percent phosphorous loads and 20 percent of sediment loads from impervious regulated acres and 6 percent of nitrogen loads, 7.25 percent of phosphorous loads and 8.75 percent sediment loads beyond 2009 progress loads for pervious regulated acreage.
- Federal MS4 operators will be given three full permit cycles (15 years) to implement the necessary reductions to meet the L2 implementation levels.

The *General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems*, Permit #VAR040093 issued on November 1, 2018 requires that no later than 12 months after the permit effective date, the permittee shall submit an updated Chesapeake Bay TMDL Action Plan. Prior to submittal of the action plan, the permittee shall provide for an opportunity for public comment on the additional BMPs proposed to meet the reductions not previously approved by the department in the first phase Chesapeake Bay TMDL action plan for no less than 15 days (VPDES Permit #VAR040093, Part II.A.11. and 12.).

The Phase I Chesapeake Bay TMDL Action Plan was submitted to VADEQ for review and approval on September 30, 2015 and was approved by VADEQ on March 22, 2016. The TMDL Action Plan concluded that approximately 30,600 pounds of Total Nitrogen (TN), 2,200 pounds of Total Phosphorous (TP) and 1.45 million pounds of Total Suspended Solids (TSS) are loaded into the

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waterways from Fort Belvoir annually, based on 2009 land use data. Fort Belvoir must reduce nutrient loads by approximately 2,500 pounds of TN, 236 pounds of TP and 265,800 pounds of TSS by the end of the third MS4 permit cycle. Fort Belvoir met pollutant load reductions by street sweeping, stream and shoreline restoration and land use change Best Management Practices (BMPs). Implementation of the projects (2009 – 2015) in the TMDL Action Plan resulted in annual reduction of pollutants of concern in the Potomac River Basin, as shown in table 11:

**Table 11: ChesBay Reduction Achieved by BMP Implementation**

<b>Pollutant of Concern</b>	<b>Annual Load Reduction (lb/yr)</b>	<b>Percentage of L2 Reduction Achieved After Implementation</b>
Total Nitrogen	2,664.79	109%
Total Phosphorous	681.53	289%
Total Suspended Solids	969,828	365%

The completed/implemented projects far exceed the L2 reduction requirements for TN, TP and TSS. Therefore, no additional BMPs were identified that are required to be implemented to meet Level 2 scoping run pollutant load reductions by 2025. Stream and shoreline restoration and land use change Best Management Practices (BMPs) were completed. The only BMP that is required to be conducted annually to maintain the annual load reduction credit is street sweeping. The Fort Belvoir Operations and Maintenance contractor conducts a monthly street sweeping program to keep roads and parking lots clear of sediment and debris. The contract specifies that 6,168,127 square yards (1,274 acres) of roadway and 6,832,433 square yards (1,412 acres) of parking lots are swept monthly under this program.

A Draft Phase II Action Plan was submitted to VADEQ on May 29, 2018 for review and comment along with the General Permit Reapplication Package as required under Section I.C.5.b of the previous General Permit. The Application package is to be submitted by June 1, 2018 as per the most recent guidance by VADEQ. This Draft Phase II Action Plan was posted for comments on the Fort Belvoir Home Page under Environmental Documents for Stormwater in May 2018. A Notice of Availability for the document was posted on the Fort Belvoir DPW stormwater Facebook page, on the main Fort Belvoir Facebook page, and was published in the Fort Belvoir newspaper, the Belvoir Eagle, in May 2018.

The public comment period was open until June 30, 2018 and comments received were formally addressed. Details of the public comment period and plan revisions was included in the final Phase II Action Plan due on November 1, 2019.

The Final Phase II TMDL Action Plan was updated and posted for a minimum of 15 day public comments from October 3, 2019 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

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MS4 General Permit. The BMPs for implementation of the approved 2016 Action Plan have been incorporated into the MS4 Program Plan below.

The measurable goal to finalize the Phase II Chesbay TMDL Action Plan by October 31, 2019 and implement the action plan in permit years 2 through 5 was met for the reporting period July 1, 2018 - June 30, 2019. The goal identified in the Chesapeake Bay TMDL Action Plan to conduct a street sweeping program to sweep 2,686 acres per year to meet 2,068.22 lbs/yr of total nitrogen reduction, 322.32 lbs/yr of total phosphorous reduction and 872,964.85 lbs/yr of total suspended solids reduction was exceeded for the reporting period July 1, 2018 - June 30, 2019. The amount of street sweeping called for in the plan was done monthly and not annually. During the 2019- 2020 reporting period, the Fort Belvoir Operations and Maintenance contractor reported street sweeping of approximately 6,168,127 square yards (1275 acres) of roadway and 6,850,700 square yards (1415 acres) of parking lots monthly. This far exceeded the goal identified in the Chesapeake Bay TMDL Action Plan of sweeping 2,686 acres per year. The current street sweeping program covers about 32,000 acres on an annual basis. Records of monthly street sweeping are available upon request.

### **BMP CHESBAY.1 Chesapeake Bay TMDL Action Plan Implementation**

- **Measurable Goal:** by October 31, 2019 (Part II.A.11), finalize the Phase II Chesbay TMDL Action Plan. Permit years 2-5, implement Action Plan.
- **Annual Reporting and Record Keeping:** In the annual report, provide a narrative on the progress of implementation to include:
  - a. A list of BMPs implemented during the reporting period but not reported to the DEQ BMP Warehouse and the estimated reduction of pollutants of concern achieved by each and reported in pounds per year;
  - b. The progress, using the final design efficiency of the BMPs, toward meeting the required cumulative reductions for total nitrogen, total phosphorus, and total suspended solids; and
  - c. A list of BMPs that are planned to be implemented during the next reporting period.
  - d. Efforts in the verification of BMPs for Chesbay crediting
- **Responsible Party:** DPW ED, DPW Operations and Maintenance

## **9.2 Polychlorinated Biphenyls (PCB) TMDL (VPDES Permit #VAR040093, Part II.B):**

The "Total Maximum Daily Loads of Polychlorinated Biphenyls (PCBs) for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland and Virginia" dated September 30, 2007 states under the section titled "Implementation Plan Development" that:

*"The WLA component of the TMDL is implemented through the NPDES permit program."*

The *General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, Permit #VAR040093* issued on November 1, 2018 requires that "the previously approved TMDL Action Plans for applicable TMDLs approved by the EPA prior to July 1, 2013 and in which an individual wasteload has been allocated to Fort Belvoir are to be updated no later than 18 months after the permit effective date and continue implementation of the action plan (VPDES Permit#VAR040093, Part II.B.a.). 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) by VADEQ and was revised in June 2018.

The 2018 TMDL Action Plan Revision assessed appropriateness of current BMPs and recommended any changes to BMPs that were required minimize discharge of PCBs as well as a sampling plan for outfalls that were identified as needing sampling.

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, which is available in print and online at <http://www.belvoireagleonline.com/> 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.

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

### **BMP PCB.1 Distribute Educational Materials about PCBs**

Existing PCB fact sheet and brochure include basic information on PCBs, their hazards, identification of PCB containing equipment and reporting procedures.

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- **Measurable Goal:** Annually review and revise, as needed the PCB educational materials and distribute as needed.
- **Annual Reporting and Record Keeping:** In the annual report, provide a narrative on any revisions made to educational materials and entities that the educational materials were distributed to.
- **Responsible Party:** DPW ED will coordinate with various departments to insure widest dissemination of information to include (PAO, NEC, The Michaels' Group, etc.).

### BMP PCB.2 Implement PCB Sampling Plan

- **Measurable Goal:** Implement the PCB Sampling Plan.
- **Annual Reporting and Record Keeping:** In the annual report, provide a narrative on the progress of the sampling effort and include a narrative about sampling results.
- **Responsible Party:** DPW ED

### 9.3 Bacteria TMDL – Lower Accotink Creek Watershed:

The Bacteria TMDL for the Lower Accotink Creek Watershed was approved by U.S. EPA on December 18, 2008 and subsequently by the State Water Control Board on April 28, 2009. The *General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems*, Permit #VAR040093 issued on November 1, 2018 requires that “the previously approved TMDL Action Plans for applicable TMDLs approved by the EPA prior to July 1, 2013 and in which an individual wasteload has been allocated to Fort Belvoir are to be updated no later than 18 months after the permit effective date and continue implementation of the action plan (VPDES Permit#VAR040093, Part II.B.a.).

A Fort Belvoir Bacteria TMDL Action Plan was submitted to VADEQ for review and approval on September 30, 2016. The Plan received approval and became an enforceable part of the MS4 Program Plan in a letter from VADEQ dated December 9, 2016.

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 (<http://www.belvoir.army.mil/environdocs.asp>) 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, which is available in print and online at <http://www.belvoireagleonline.com/> 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.

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

#### **BMP BAC.1 Bacteria TMDL Action Plan Revision and Reporting**

- **Measurable Goal:** In permit years 1 – 3, continue implementation of the approved 2016 Action Plan and report on implementation of the TMDL Action Plan in the MS4 Annual Report. In permit year 3, revise and post the Bacteria TMDL Action Plan on Fort Belvoir website and report on implementation of TMDL Action Plan in the MS4 Annual Report. In permit years 2 - 5, the revised Bacteria TMDL Action Plan shall be implemented

## Fort Belvoir Municipal Separate Storm Sewer Systems (MS4) Program Plan

- ***Annual Reporting and Record Keeping:*** In the annual report, provide a narrative on the progress of revision and implementation.
- ***Responsible Party:*** DPW ED

### **BMP BAC.2 Public Education and Outreach**

- ***Measurable Goal:*** Publish one article annually in the *Fort Belvoir Eagle* that discusses the bacteria water quality issue, sources of bacteria, reporting information and steps that can be taken to reduce bacteria sources.
- ***Annual Reporting and Record Keeping:*** In the annual report, provide a narrative on publication of the article to include date published.
- ***Responsible Party:*** DPW ED

# APPENDIX A

## Policy Memorandums

- A.1 - Fort Belvoir Policy Memorandum #28,  
Environmental Policy
- A.2 - Fort Belvoir Policy Memorandum #71,  
Prohibition of Illicit Discharges
- A.3 - Fort Belvoir Policy Memorandum #73,  
Stormwater Pollution Prevention Requirements



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

REPLY TO  
ATTENTION OF

IMBV-PWE

26 June 2014

MEMORANDUM FOR US Army Fort Belvoir Personnel

SUBJECT: Fort Belvoir Policy Memorandum #28, Environmental Policy

1. REFERENCE: Army Regulation 200-1 (Environmental Quality, Environmental Protection and Enhancement), 13 December 2007.
2. PURPOSE. To promulgate Fort Belvoir's commitment to environmental management.
3. APPLICABILITY. This policy applies to all military, civilians, mission partners and contractor activities at Fort Belvoir.
4. POLICY. Fort Belvoir is committed to the protection of the environment, within mission and funding constraints, and will be accountable for its decisions. In support of this environmental policy, Fort Belvoir will:
  - a. Comply with legal and other requirements applicable to the conduct of Fort Belvoir's mission while continually improving Fort Belvoir's environmental performance.
  - b. Integrate sound pollution prevention practices, waste minimization and sustainable practices into daily decisions, activities and planning.
  - c. Conserve and protect our natural resources, special natural areas and wetlands through efficient use, reuse and sustainable management.
  - d. Promote sustainable goals and strategies that address life-cycle and operational costs, planning sustainable sites, safeguarding water resources, improving energy efficiency and performance, conserving materials and resources, and enhancing indoor environmental quality.
  - e. Proactively manage environmental issues and act promptly and responsibly to correct incidents or conditions that endanger health, safety, or the environment.
  - f. Assess the environmental impacts of proposed development projects, changes in land use, and other policy or process initiatives designed to enhance the function, mission, or quality of life at Fort Belvoir and communicate them to the surrounding community.

**"LEADERS IN EXCELLENCE"**

IMBV-PW

SUBJECT: Fort Belvoir Policy Memorandum #28, Environmental Policy

g. Communicate this environmental policy to all persons working for or on behalf of Fort Belvoir, and make available to the public.

h. Ensure conformance of this environmental policy by all members of the Fort Belvoir community in accordance with their roles and responsibilities. To support this commitment, we will continue to document, implement and maintain our Garrison-wide Environmental Management System (EMS) in accordance with ISO 14001:2004 and track our environmental performance. Our EMS provides a framework for setting and reviewing environmental objectives and targets.

5. PROPONENT. The proponent and responsible agency for this policy is the Directorate of Public Works at 703-806-3017.

  
MICHELLE D. MITCHELL  
Colonel, AG  
Commanding



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

REPLY TO  
ATTENTION OF

IMBV-PW

2 August 2018

MEMORANDUM FOR All Fort Belvoir Employees (Military, Civilian, and Contractors), Residents, and Visitors

SUBJECT: Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/Unauthorized Discharges into the Municipal Separate Storm Sewer System (MS4) and Waterways

1. Purpose. To prevent illicit/unauthorized discharges and illegal dumping into the storm sewer systems and waterways at Fort Belvoir Main Post and Fort Belvoir North Area to ensure protection of water quality of Fort Belvoir waterways and compliance with Fort Belvoir VPDES MS4 and Industrial Stormwater permits.
2. Applicability. This policy applies to military and civilian personnel, tenant and satellite organizations, mission partners, housing residents and contractor activities at Fort Belvoir and Fort Belvoir North Area.
3. References.
  - a. General Virginia Pollution Discharge Elimination System Permit (VPDES) for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), Permit # VAR040093 (9VAC25-890-40)
  - b. VPDES Industrial Stormwater Individual Major Permit #VA0092771
4. Discussion.
  - a. Definitions:
    - (1) Illegal dumping: Any dumping of solid or liquid material into the storm sewer system or on the ground.
    - (2) Illicit connection: Any drain or conveyance, whether on the surface or subsurface, which allows a non-stormwater discharge to enter the storm sewer system and any connections to the MS4 from indoor drains, sinks, boiler blow downs, cooling towers, potable water lines or sanitary sewer lines.
    - (3) Illicit/unauthorized discharge: Any discharge to the storm sewer system that is not composed entirely of stormwater that causes or contributes to pollution.

**“LEADERS IN EXCELLENCE”**

IMBV-PW

SUBJECT: Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/Unauthorized Discharges into the Municipal Separate Storm Sewer System (MS4) and Waterways

(4) Leachate: Any liquid that passes through any material and picks up any part of that material that it passes through and is discharged to the environment.

(5) Municipal separate storm sewer system (MS4): A collection of underground pipes and conveyances (ditches, channels) that drain to Fort Belvoir waterways. The water that drains through the MS4 is not treated to remove pollutants. Whatever pollutants enter the MS4 directly end up in waterways.

(6) Stormwater: Precipitation that flows across the land surface or through conveyances to one or more waterways and that may include rain runoff, snow melt runoff and surface runoff and drainage.

(7) Waterways: Includes all bodies of water, but is not limited to, rivers, streams, bays, wetlands, stormwater management ponds and drainage ditches.

b. As stormwater flows across the ground, off of a roof or equipment, off of materials that are stored outside or through a parking lot, it can pick up various pollutants such as oil, grease, spilled materials, loose soil and other debris. When it rains, stormwater flows to the MS4 and eventually drains directly into Fort Belvoir waterways and ultimately to the Chesapeake Bay with no treatment to remove pollutants that were picked up along the way.

c. Fort Belvoir is committed to protecting water quality of waterways on and surrounding Fort Belvoir to ensure that human health, ecosystem health and the ability to conduct recreational opportunities are not impacted by stormwater pollution. Reference a. requires the establishment of an enforceable policy that prohibits illicit discharges and illegal dumping.

d. Prohibited Discharges into the MS4 and Waterways: The following are common sources of illicit discharges/illegal dumping at Fort Belvoir that are prohibited from entering into the MS4 and waterways: sanitary sewer overflows, trash, paint, grease, motor oil and other automotive fluids, fuel, cooking oil, salt, herbicides, fertilizer, pesticides, chemicals, liquid materials, yard wastes (grass clippings and leaves), mulch, charcoal, cigarette butts, sand, soil, construction materials, wash waters containing soaps, detergents and degreasers of any kind, acid wash water, fire hydrant and water line flushing and potable water tank discharge without prior de-chlorination, contact cooling water, leachate from dumpsters and outside material storage areas, pet/animal waste, construction wastes, and residues and noxious or offensive material of any kind. The following actions shall be taken to reduce the risk of having an illicit discharge into the MS4:

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SUBJECT: Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/Unauthorized Discharges into the Municipal Separate Storm Sewer System (MS4) and Waterways

(1) Materials Storage: All personnel are responsible for ensuring proper storage of materials. Materials should be stored inside, under a roof, whenever possible. If outside storage of materials cannot be avoided, materials must be elevated off of the ground and covered to prevent stormwater from coming in contact with material and being carried into the MS4. "Keep Materials "High and Dry"! Any outdoor materials storage areas should be located away from MS4 components (inlets, drains, swales, stormwater management ponds, ditches) and waterways. Personnel responsible for bulk storage areas for items such as salt, mulch, compost, and soil stockpiles will implement best management practices to insure that material does not enter the MS4 and waterways during a storm event. Any liquid materials must be stored in adequate secondary containment.

(2) Spill Response: All personnel are responsible for following the Fort Belvoir Master Spill Plan. The Fort Belvoir Spill Response Procedures are enclosed.

(3) Waste Material Disposal: All personnel are responsible for proper disposal of all hazardous and nonhazardous waste materials, including yard wastes. Hazardous waste disposal is required to be conducted in accordance with the Fort Belvoir Hazardous Waste Minimization and Management Plan.

(4) Vehicle Cleaning, Maintenance and Storage: Operations, including fueling, cleaning and maintenance of aircraft, equipment, campers, boats and vehicles should be conducted indoors or under cover to prevent exposure to stormwater whenever possible. Cleaning of vehicles may be conducted outside only at an authorized wash rack or commercial car wash.

(5) Use of Deicing Materials: Application of any deicing agents containing urea or ethylene glycol or other forms of nitrogen or phosphorous to parking lots, roadways, runways, sidewalks or other paved surfaces is prohibited per references a. – b.

(6) Waste Container Management: All personnel are responsible for ensuring that tops and sides of dumpsters located around their building are closed and for notifying the Directorate of Public Works (DPW), Environmental Division (ENV DIV), Solid Waste Program Manager, 703-806-3766, if the dumpster is rusty, leaking or missing a drain plug that could allow for dumpster contents to leak onto the ground.

(7) Portable Toilets: All portable toilets must be located at a minimum of 25 feet away from MS4 components (inlets, drains, swales, stormwater management ponds, ditches) and waterways.

IMBV-PW

SUBJECT: Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/Unauthorized Discharges into the Municipal Separate Storm Sewer System (MS4) and Waterways

(8) Illicit Connections: All personnel are responsible for reporting any discovered or suspected illicit connections to the DPW ENRD Stormwater Program Manager, 703-806-3406.

(9) Annual Training: As required by reference a., the following personnel are required to attend annual training in the recognition, prevention and reporting of illicit discharges: personnel employed in and around maintenance and public works facilities; personnel employed for road, street and parking lot maintenance; personnel employed in and around recreational facilities; and personnel employed at facilities where Stormwater Pollution Prevention Plans have been implemented. Additional categories of personnel may require training if personnel are found to have caused an illicit discharge. DPW ENRD will schedule and provide training for all required personnel.

(10) All stormwater concerns, suspected illicit/unauthorized discharges and suspected illicit connections may be submitted via email @ [usarmy.belvoir.imcom-atlantic.mbx.DPW-ENRD-Stormwater@mail.mil](mailto:usarmy.belvoir.imcom-atlantic.mbx.DPW-ENRD-Stormwater@mail.mil) or by contacting the Stormwater Program Manager at 703-806-3406.

5. Proponent. Directorate of Public Works, Environmental Division, at 703-806-3406.

Encl

  
MICHAEL H. GREENBERG  
COL, FI  
Commanding



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

IMBV-PW

2 August 2018

MEMORANDUM FOR All Fort Belvoir Employees (Military, Civilian, and Contractors), Residents, and Visitors

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

1. Purpose. To ensure compliance with the Fort Belvoir VPDES Industrial Stormwater and MS4 permits by providing guidance for the development, implementation and maintenance of a Stormwater Pollution Prevention Plan (SWPPP).
2. Applicability. This policy applies to military and civilian personnel, tenant and satellite organizations, partners, and contractor activities at Fort Belvoir and Fort Belvoir North Area that are required to develop, implement and maintain a Stormwater Pollution Prevention Plan (SWPP).
3. References.
  - a. Army Regulation 200-1 (Environmental Quality, Environmental Protection and Enhancement 13 December 2007
  - b. Virginia Pollution Discharge Elimination System Permit (VPDES) Industrial Stormwater Individual Major Permit #VA0092771
  - c. VPDES for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), Permit # VAR040093 (9VAC25-890-40); and
  - d. Stormwater Pollution Prevention Plan Requirements for Land Disturbing Activities (9VAC25-870-54)
4. Discussion.
  - a. Definitions:
    - (1) Best Management Practices (BMPs): BMPs may be classified as structural (e.g. a device installed or constructed such as a berm or a bioretention pond) or

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IMBV-PW

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

operational/ procedural practices (e.g. minimizing use of chemical fertilizers and pesticides, stormwater pollution prevention training).

(2) High Priority Facilities: High priority facilities under the MS4 Permit include: Composting facilities, equipment storage and maintenance facilities, materials storage yards, pesticide storage facilities, public works yards, recycling facilities, salt storage facilities, solid waste handling and transfer facilities and vehicle storage and maintenance yards.

(3) Impaired Waters: Impaired waters under Section 303(d) of the Clean Water Act are waters that are too polluted to meet the water quality standards set by states, territories, or authorized tribes.

(4) Pollutants of Concern: Fort Belvoir pollutants of concern include: nutrients (phosphorous and nitrogen), silt/sediment, bacteria, oil/grease, metals, debris and trash.

(5) Total Maximum Daily Load (TMDL): a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

(6) Facilities covered under the Industrial Stormwater Major Permit include: facilities that meet primary Standard Industrial Classification (SIC) code, or the specific industrial activities specific activities occurring at a facility is covered under the permit. Common industrial activities covered under the permit are: hazardous waste treatment, storage, or disposal facilities; landfills that receive or have received industrial activity wastes; recycling facilities; and transportation facilities with maintenance activities on site.

b. Background. The industrial stormwater major permit and MS4 permit requirements are as follows:

(1) Reference a. requires Army installations to comply with TMDL requirements and develop and implement a Stormwater Pollution Prevention Plan (SWPPP) by integrating all aspects of the National Pollutant Discharge Elimination System (NPDES) program and ensuring that mission and non-mission activities utilize Best Management

IMBV-PW

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

Practices (BMPs) to prevent exceeding TMDL limits of pollutants of concern to impaired waters.

(2) References b. and c. require that Fort Belvoir develop, implement and maintain facility SWPPPs for each tenant, contractor or facility operators that carry out industrial activities or are located at high priority facilities.

(3) References c. and d. require that all construction contractors develop SWPPPs for projects disturbing one acre or greater of land.

c. Policy: Fort Belvoir is committed to protecting water quality of waterways on and surrounding Fort Belvoir to ensure that human health, ecosystem health and the ability to offer recreational opportunities are not impacted by stormwater pollution. References a. and b. require development, implementation and maintenance of a Stormwater Pollution Prevention Plan (SWPPP). The following requirements are necessary to maintain compliance with stormwater permit requirements:

(1) All commanders, supervisors and facility operators shall implement and maintain the SWPPP and shall provide trained and capable staff to actively take part in the Fort Belvoir Pollution Prevention Team, to complete facility inspections, maintain operational compliance and provide all required documentation in a timely manner.

(2) Commanders, supervisors, and facility operators shall ensure that all SWPPP and permit required notifications and reporting, and any action plans are completed and submitted by the regulatory due dates.

(3) Commanders, supervisors, and facility operators shall ensure that the Directorate of Public Works (DPW) Industrial Stormwater Program and MS4 Stormwater Program Managers are notified of any changes to personnel of the Pollution Prevention Team, changes in command, supervisors or facility operators within 30 days of said change. In addition, to ensure that there is a seamless transition of staff that participates in the Pollution Prevention Team, new pollution prevention team members shall receive SWPPP training within 30 days of assuming the new position.

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

(4) For construction projects involving land disturbance of one acre or greater, the construction contractor is required to submit a SWPPP to the MS4 Stormwater Program Manager along with a completed Directorate of Public Works SWPPP checklist for review PRIOR to the commencement of construction. The construction contractor shall develop a SWPPP utilizing the U.S. Environmental Protection Agency template located at: <https://www.epa.gov/npdes/developing-stormwater-pollution-prevention-plan-swppp>. The construction contractor is required to update the SWPPP no later than seven days following any modification to its implementation. The construction contractor is responsible for regulatory compliance with all additional SWPPP requirements as identified in the Construction General Permit (9VAC25-880-70, Part II Stormwater Pollution Prevention Plan).

(5) Enforcement of regulatory required reporting shall be conducted in accordance with facility specific SWPPPs in Appendix D – Additional Guidance.

5. Proponent. Directorate of Public Works, Environmental Division, at 806-0627 or 806-3406.

  
MICHAEL H. GREENBERG  
COL, FI  
Commanding

# APPENDIX B

## Delegation of Authority



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

IMBV-PW

OCT 06 2020

MEMORANDUM FOR Mr. Bradford D. Britain, Director of Public Works, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116

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

1. You are authorized to sign all routine correspondence related to the Installation's MS4 VPDES Permit #VAR040093, effective upon submission of this delegation memorandum to the Virginia Department of Environmental Quality as required by 9VAC25-870-370.B.3 and 9VAC25-890-40, Part III.K.2. All correspondence signed must comply with the provisions of AR 25-50, paragraph 6-2, concerning authority.
2. Fort Belvoir's storm water management program is performed in accordance with the Clean Water Act (33 USC Sec.1251), Virginia Storm Water Management Act (Virginia (VA) Code Sections (Secs) 62.1-44.15:24 et seq.), Virginia Erosion and Sediment Control Law (VA Code Secs 62.1-44.15:51 et seq.), Virginia Storm Water Management Regulations (9VAC25-870-10 et seq.; 9VAC25-880-1 et seq.; 9VAC25-890-1 et seq.) and Virginia Erosion and Sediment Control Regulations (9VAC25-840-10 et seq.; 9VAC25-850-10 et seq.).
3. Routine correspondence includes:
  - a. Correspondence related to and including submittal of annual reports for the MS4 VPDES Permit.
  - b. Correspondence related to Requests for Information received from the Commonwealth of Virginia, Department of Environmental Quality (VADEQ).
  - c. Correspondence related to transmittal of Erosion and Sediment Control and Stormwater Management Plans to VADEQ for review and approval.
  - d. Land Disturbance Letters issued to construction contractors to signify that construction commencement is approved.
4. Signatory authority for submittal of MS4 VPDES Permit registration statement remains with the Garrison Commander.

**"LEADERS IN EXCELLENCE"**

IMBV-PW

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

5. Submittal of routine correspondence described in 3.a. - d. shall include certification of reports or other information required under 9VAC25-870-370 and 9VAC25-890-40.
6. This delegation may be withdrawn at any time. Notice of withdrawal will be provided to the VADEQ.
7. Authority: AR 25-50 (Preparing and Managing Correspondence), paragraph 6-1, 17 May 2013.

A handwritten signature in black ink, appearing to read 'J. Segraves', with a long horizontal line extending to the right.

JOSHUA P. SEGRAVES  
COL, IN  
Commanding



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

IMBV-PW

AUG 22 2019

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

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

1. You are authorized to sign all routine correspondence related to the Installation's MS4 VPDES Permit #VAR040093, effective upon submission of this delegation memorandum to the Virginia Department of Environmental Quality as required by 9VAC25-870-370.B.3 and 9VAC25-890-40, Section III.K.2.c. All correspondence signed must comply with the provisions of AR 25-50, paragraph 6-2, concerning authority.
2. Fort Belvoir's storm water management program is performed in accordance with the Clean Water Act (33 USC Sec. 1251), Virginia Storm Water Management Act (Virginia (VA) Code Sections (Secs) 62.1-44.15:24 et seq.), Virginia Erosion and Sediment Control Law (VA Code Secs 62.1-44.15:51 et seq.), Virginia Storm Water Management Regulations (9VAC25-870-10 et seq.; 9VAC25-880-1 et seq.; 9VAC25-890-1 et seq.) and Virginia Erosion and Sediment Control Regulations (9VAC25-840-10 et seq.; 9VAC25-850-10 et seq.).
3. Routine correspondence includes:
  - a. Correspondence related to and including submittal of annual reports for the MS4 VPDES Permit.
  - b. Correspondence related to Requests for Information received from the Commonwealth of Virginia, Department of Environmental Quality (VADEQ).
  - c. Correspondence related to transmittal of Erosion and Sediment Control and Stormwater Management Plans to VADEQ for review and approval.
  - d. Land Disturbance Letters issued to construction contractors to signify that construction commencement is approved.
4. Signatory authority for submittal of MS4 VPDES Permit registration statement remains with the Garrison Commander.


"LEADERS IN EXCELLENCE"

IMBV-PW

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

5. Submittal of routine correspondence described in 3.a. shall include certification of reports or other information required under 9VAC25-870-370 and 9VAC25-890-40.
6. This delegation may be withdrawn at any time. Notice of withdrawal will be provided to the VADEQ.
7. Authority: AR 25-50 (Preparing and Managing Correspondence), paragraph 6-1.

Rescinded as of 6 October 2020

  
MICHAEL H. GREENBERG  
COL, FI  
Commanding



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

IMBV-PW

MAY 22 2019

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

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

1. You are authorized to sign all routine correspondence related to the Installation's MS4 VPDES Permit #VAR040093, effective upon submission of this delegation memorandum to the Virginia Department of Environmental Quality as required by 9VAC25-870-370.B.3 and 9VAC25-890-40, Section III.K.2. All correspondence signed must comply with the provisions of AR 25-50, paragraph 6-2, concerning authority.
2. Fort Belvoir's storm water management program is performed in accordance with the Clean Water Act (33 USC Sec.1251), Virginia Storm Water Management Act (Virginia (VA) Code Sections (Secs) 62.1-44.15:24 et seq.), Virginia Erosion and Sediment Control Law (VA Code Secs 62.1-44.15:51 et seq.), Virginia Storm Water Management Regulations (9VAC25-870-10 et seq.; 9VAC25-880-1 et seq.; 9VAC25-890-1 et seq.) and Virginia Erosion and Sediment Control Regulations (9VAC25-840-10 et seq.; 9VAC25-850-10 et seq.).
3. Routine correspondence includes:
  - a. Correspondence related to and including submittal of annual reports for the MS4 VPDES Permit.
  - b. Correspondence related to Requests for Information received from the Commonwealth of Virginia, Department of Environmental Quality (VADEQ).
  - c. Correspondence related to transmittal of Erosion and Sediment Control and Stormwater Management Plans to VADEQ for review and approval.
  - d. Land Disturbance Letters issued to construction contractors to signify that construction commencement is approved.
4. Signatory authority for submittal of MS4 VPDES Permit registration statement remains with the Garrison Commander.

"LEADERS IN EXCELLENCE"

IMBV-PW

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

5. Submittal of routine correspondence described in 3.a. - d. shall include certification of reports or other information required under 9VAC25-870-370 and 9VAC25-890-40.
6. This delegation may be withdrawn at any time. Notice of withdrawal will be provided to the VADEQ.
7. Authority: AR 25-50 (Preparing and Managing Correspondence), paragraph 6-1.

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

Rescinded as of 17 August 2019

# APPENDIX D

## Erosion and Sediment Control Inspection Form

# Fort Belvoir Erosion and Sediment Control Inspection Report

Project Name:	Project Authority:	<input type="checkbox"/> Scheduled Inspection	<div>Date:</div>
RLD Name:	RLD No.	<input type="checkbox"/> Post Rain Inspection	
Project Location:	Attendees:	<input type="checkbox"/> Re-Inspection	<div>Time:</div>
Inspector Name:		<input type="checkbox"/> Other	

Yes	No	N/A	Regulation (1)	Minimum Standards (2)
			9VAC25-840-40.A.1	MS-1: Stabilization - Has permanent or temporary soil stabilization been applied appropriately?
			9VAC25-840-40.A.2	MS-2: Stockpiles, Waste and Borrow Areas - Are all soil stockpiles and borrow areas adequately stabilized or protected?
			9VAC25-840-40.A.3	MS-3: Permanent Vegetation - Has permanent stabilization been applied appropriately, and is it stabilized?
			9VAC25-840-40.A.4	MS-4: First Step Measures - Have sediment basins, sediment traps, and other perimeter controls been installed as a first step in any Land Disturbing Activity (LDA)?
			9VAC25-840-40.A.5	MS-5: Earthen Structure Stabilization - Are earthen structures such as dams, dikes, and diversions stabilized appropriately?
			9VAC25-840-40.A.6	MS-6: Sediment Traps and Basins - Are sediment traps and basins installed per specifications?
			9VAC25-840-40.A.7	MS-7: Cut and Fill Slopes - Are cut and fill slopes protected from erosion?
			9VAC25-840-40.A.8	MS-8: Concentrated Runoff - Are cut and fill slopes protected from concentrated runoff?
			9VAC25-840-40.A.9	MS-9: Water Seeps - Is there any water seepage on slope faces?
			9VAC25-840-40.A.10	MS-10: Inlet Protection - Do all operational storm sewer inlets have adequate inlet protection?
			9VAC25-840-40.A.11	MS-11: Conveyance Channel/Outlet Protection - Do all active outlets have adequate outlet protection?
			9VAC25-840-40.A.12	MS-12: Watercourse Construction - Are watercourses adequately protected from runoff due to construction activities?
			9VAC25-840-40.A.13	MS-13: Temporary Stream Crossing - Are temporary stream crossings installed properly?
			9VAC25-840-40.A.14	MS-14: Other Watercourse Regulations - Are all applicable federal, state, and local regulations pertaining to live watercourses being met?
			9VAC25-840-40.A.15	MS-15: Bed and Bank Stabilization - Are stream bed and banks protected from erosion?
			9VAC25-840-40.A.16	MS-16: Utility Construction - Is there no more than 500 linear feet of utility trench open at any one time? If dewatering is occurring, are devices being used appropriately?
			9VAC25-840-40.A.17	MS-17: Vehicular Tracking, Construction Entrance - Are construction entrances installed properly, and are roadways free of sediment and sediment tracking?
			9VAC25-840-40.A.18	MS-18: Control Removal - Are all unnecessary Erosion and Sediment Control devices removed, or scheduled to be removed?
			9VAC25-840-40.A.19	MS-19: Downstream and Property Protection - Are properties and waterways downstream of the subject property protected from erosion and sediment?

Yes	No	N/A	Regulation (1)	Construction General Permit Requirements (2)
			9VAC25-870-310	Project has permit coverage?
			9VAC25-870-54.G	Notice of location of the SWPPP posted near site's entrance, if applicable, and information for public access is provided?
			9VAC25-880-70 Part II.A.4.e(1)	Are spill response procedures listed conspicuously on site?
			9VAC25-880-70 Part II.A.4.e(2)	Is there a spill kit on site in case of emergency?
			9VAC25-880-70 Part II.A.4.e(3)	Are harmful/deleterious materials being stored in a covered, protected area?
			9VAC25-880-70 Part II.A.4.e(4)	Are equipment and vehicle washing areas provided, with water conveyed through proper protective controls?
			9VAC25-880-70 Part II.A.4.e(5)	Are concrete washout areas provided where necessary, and has any spilled concrete been disposed of properly?
			9VAC25-880-70 Part II.A.4.e(6)	Is trash from construction activities being disposed of properly?
			9VAC25-880-70 Part II.A.4.e(7)	Are vehicle fuel, oil, petroleum wastes stored in a covered, protected area (secondary containment, covered)? Are sanitary facilities located away from drainage inlets?
			9VAC25-880-70 Part II. C	Project's coverage letter posted near the site entrance?

Yes	No	N/A	Regulation (1)	Stormwater Pollution Prevention Plan (SWPPP) Requirements
			9VAC25-880-70 Part II.A.1.a	Is there a signed registration statement within the SWPPP?

# Fort Belvoir Erosion and Sediment Control Inspection Report

			9VAC25-880-70 Part II.A.1.b & c	Is there an active notice of coverage letter from the DEQ within the SWPPP along with a copy of the Construction General Permit?
			9VAC25-880-70 Part II.A.1.d & e	Is there a narrative description of the nature of the construction activity within the SWPPP along with a site plan?
			9VAC25-880-70 Part II.A.2.a-c	Is the Erosion and Sediment Control plan approved and properly implemented?
			9VAC25-880-70 Part II.A.3.a-b	Is the Stormwater Management Plan consistent with the CGP requirements for new and existing construction activities?
			9VAC25-880-70 Part II.A.4.a, b, c, d, and f	Is the Pollution Prevention Plan consistent with the requirements of the CGP and VSMP Regulations?
			9VAC25-880-70 Part II.A.5.a-b	Are discharges to impaired waters, surface waters with an applicable TMDL wasteload allocation established, and exceptional waters addressed as required in the SWPPP?
			9VAC25-880-70 Part II.A.6	Are the qualified personnel conducting inspections listed within the SWPPP?
			9VAC25-880-70 Part II.A.7	Is Delegation of Authority provided and signed in accordance with Part III K?
			9VAC25-880-70 Part II.A.8	Is the SWPPP signed and dated in accordance with Part IIIK?
			9VAC25-880-70 Part II.B.1, 2, 4, and 5	Is the SWPPP being amended, modified, and updated appropriately?
			9VAC25-880-70 Part II.B.3	Are Contractor(s) identified who will implement and maintain each control measure?
			9VAC25-880-70 Part II.D	Is there a SWPPP on site OR is it made available during the inspection?
			9VAC25-880-70 Part II.E	Are control measures implemented in accordance with the SWPPP and site plan?
			9VAC25-880-70 Part II.F	Are inspections conducted appropriately and at the required frequency?
<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Regulation (1)</b>	<b>Permanent Stormwater Requirements (2)</b>
			9VAC25-870-114	Are approved stormwater management plans located on site?
			9VAC25-870-114	Do field observations match design plans and specifications? (BMP type, size, materials used, etc...)
			9VAC25-870-114	Is the condition of the stormwater BMP's consistent with the construction schedule and E&S phasing?
			9VAC25-870-114	Is the drainage area going to the BMP's stabilized appropriately?
			9VAC25-870-114	Are permanent structures free of erosion and sediment build-up requiring maintenance?
			9VAC25-870-114	Are additional control measures necessary to address a TMDL (Total Maximum Daily Load) being developed or implemented?
			9VAC25-870-114	Have certified as-built drawings been provided?
			9VAC25-870-114	Have previous VSMP inspection reports been received and deficiencies corrected, and are self-inspection reports and maintenance records located within the SWPPP?
<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Regulation (1)</b>	<b>Final Requirements</b>
			9VAC25-880-70 Part II.G	Have all deficiencies from the previous report been addressed? (Seven days to correct any required action)
(1) Refers to applicable regulation found in the most recent publication of the <i>Virginia Erosion and Sediment Control Regulations</i> (9VAC25-840), <i>Virginia Stormwater Management Regulations</i> (9VAC25-870), or local ESC/SWM ordinance.				
(2) Note whether or not off-site damage resulting from the problem/violation was evident during the inspection.				
<b>REQUIRED CORRECTIVE ACTION DEADLINE DATE:</b>				Re-inspection Date:
The required corrective action deadline date applies to <b>all violations</b> noted on this report. If listed violation(s) currently constitute non-compliance and/or required corrective actions are not completed by the deadline, a <b>NOTICE TO COMPLY, STOP WORK ORDER</b> and/or other enforcement actions may be issued to the entity responsible for ensuring compliance on the above project.				
Inspector Signature:				Date:
Acknowledgement of on site report incident:				
Print Name		Signature		Date
This report will be provided to the necessary parties via mail, fax or e-mail within 24 hours of inspection:				

Notes and Comments	
<u>Inspection Description:</u>	
1)	
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	

# APPENDIX C

## MS4 Guidance Documents

C.1 - Program Bulletin #1:

Stormwater Management and Erosion and Sediment Control  
Compliance Requirements for Land Disturbance

C.2 - Erosion and Sediment Control Technical Bulletin #1:

Dewatering Operations

C.3 - Erosion and Sediment Control Technical Bulletin #2:

Stormwater Pollution Prevention Plan Requirements

C.4 - Erosion and Sediment Control Technical Bulletin #3:

Erosion and Sediment Control Regulations for Utility Installation

C.5 - Erosion and Sediment Control Technical Bulletin #4:

Stormwater Pollution Prevention Requirements for Small and Renovation Projects



## Fort Belvoir Directorate of Public Works (DPW) Municipal Separate Storm Sewer System (MS4) Program

### **Bulletin #1: STORMWATER MANAGEMENT (SWM) AND EROSION AND SEDIMENT CONTROL (ESC) COMPLIANCE REQUIREMENTS AND PROCEDURES FOR LAND DISTURBANCE**

#### **A. APPLICABILITY**

This bulletin is applicable to Garrison, Tenant and Contractor Operations for stormwater and erosion and sediment control design for projects disturbing land areas of 2,500 square feet and greater.

#### **B. BACKGROUND**

To comply with the Fort Belvoir General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 Permit #VAR040093), Energy Independence and Security Act Section 438 (EISA 438) and the Virginia Erosion and Sediment Control, Stormwater Management and Chesapeake Bay laws and regulations. Specific guidelines must be followed during design and construction of projects disturbing areas of 2,500 square feet and greater. As of July 1, 2014 Virginia Department of Environmental Quality (VADEQ) has review and approval authority for erosion and sediment control design plans for construction projects disturbing 10,000 feet or greater of land and stormwater management design plans for projects disturbing one acre or greater of land on properties owned by Fort Belvoir.

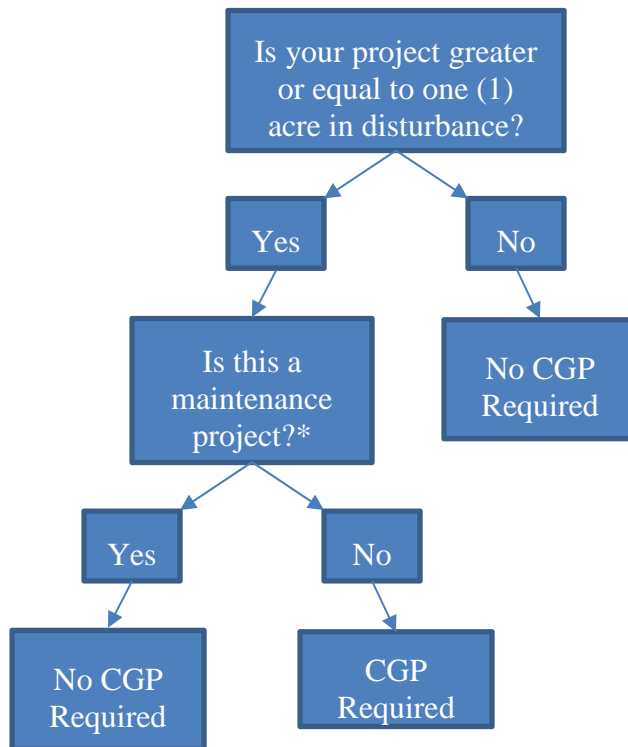
#### **C. LAND DISTURBANCE COMPLIANCE REQUIREMENTS AND PROCEDURES**

##### **1. Plans Required based on Land Disturbance Thresholds**

*Please note that if your project involves land disturbance of greater than 5,000 square feet, AND includes the construction of a federal facility (See Section C.3.a. (1) for full definition), stormwater design must also comply with EISA 438.*

Table 1. ESC and SWM Plans Requirements by Project Size		
Project Size	Plans Required	Review Authority
Less than 2,499 sq.ft.	None	DPW-Environmental Division
Between 2,500 sq.ft. and 9,999 sq.ft.	ESC & SWM Plans	DPW-Environmental Division
Between 10,000 sq.ft. and 43,559 sq.ft.	ESC & SWM Plans	VADEQ (for ESC portion only)
Greater than or equal to one (1) acre	ESC & SWM Plans	VADEQ (for ESC & SWM)

## 2. Construction General Permit (CGP) Threshold



\*Virginia Code 62.1-44.15:34 C.7, which states that “routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original construction of a project.” A maintenance project means you are ONLY exempt from requiring a Construction General Permit and SWPPP. All other requirements still apply; please consult with DPW-Environmental to determine if your project may be considered maintenance.

## 3. Plan Requirements

### a. Stormwater Management Plan Requirements

- (1) If the project includes the construction of a federal facility and disturbs greater than 5,000 square feet, the SWM Plan shall comply with Section 438 of the Energy Independence and Security Act (EISA 438). A federal facility is defined as any building that is constructed, renovated, leased, or purchased in part or in whole for use by the Federal Government. Technical guidance is located online at: [https://www.epa.gov/sites/production/files/2015-08/documents/epa\\_swm\\_guidance.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/epa_swm_guidance.pdf).
- (2) Incorporation of Low Impact Development Best Management Practices will be used to meet requirements of EISA 438. The design objective of LID is to maintain or

restore the hydrology of the site prior to the planned project being constructed with regard to the temperature, rate, volume and duration of flow. See <https://mrsi.erdcdren.mil/sustain/cx/lid> for further guidance.

- (3) The Stormwater Management (SWM) Plan must address all components outlined in 9VAC25-870-55.
- (4) Per 9VAC25-870-63 and 65, the SWM Plan must utilize stormwater management BMPs from the Virginia BMP Clearinghouse to obtain the required water quality pollutant reductions. The required water quality pollutant reductions shall be calculated by using the Virginia Runoff Reduction Method (VRRM) Spreadsheet for site-specific project conditions. It should be noted Fort Belvoir does not allow purchasing of off-site nutrient credits to offset the requirements of water quality under 9VAC25-870-63 as it is not authorized under the National Defense Authorization Act (NDAA). Project proponents will need to meet all phosphorous load reduction requirements on-site. The VRRM Spreadsheets (currently version 3.0) are located online at:  
<https://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx>
- (5) Per 9VAC25-870-66, each stormwater outfall location on the project site must be evaluated for Channel Protection and Flood Protection to the defined Limits of Analysis. Different design criteria are specified in the regulation dependent on whether the outfall is discharging into a natural or manmade system.
- (6) The SWM Plan shall comply with Chapter 6 of the Fairfax County Public Facilities Manual (PFM), located online at:  
<https://www.fairfaxcounty.gov/landdevelopment/public-facilities-manual>
- (7) The VADEQ SWM Plan Review Checklist must also be completed by the designer and provided with plan submittal. This checklist is located online at:  
<http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx>
- (8) Per 9VAC25-870-55, stormwater management plans shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia pursuant to Article 1 of Chapter 4 of Title 54.1 of the Code of Virginia.

#### **b. Erosion and Sediment Control Plan Requirements**

- (1) Erosion and Sediment Control (ESC) plans must be developed to comply with the 19 Virginia Minimum Standards (9VAC25-840-40). The plan shall also utilize erosion and sediment control standards and specifications listed in Chapter 3 of the Virginia

Erosion and Sediment Control Handbook (VESCH). Nomenclature for erosion and sediment control measures shall be consistent with the VESCH and the ESC Plan must follow the Virginia Uniform Coding System:

<http://www.deq.virginia.gov/Portals/0/DEQ/Water/StormwaterManagement/ErosionSedimentControlHandbook/Uniform%20Coding.pdf>

- (2) Guidance on development of ESC Plans can be found in Chapter 6 of the VESCH at the Virginia Department of Environmental Quality (VADEQ) website:

<http://www.deq.virginia.gov/Programs/Water/Laws,Regulations,Guidance/Guidance/StormwaterManagementGuidance.aspx>

- (3) The ESC Plan shall also comply with Chapter 11 of the Fairfax County Public Facilities Manual (PFM) and is located online at:

<https://www.fairfaxcounty.gov/landdevelopment/public-facilities-manual>

- (4) The VADEQ ESC Plan Review Checklist must also be completed by the designer and provided with plan submittal. The checklist is located online at:

<http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx>

#### **4. Plan Review and Approval Procedures**

The following steps are required for SWM and ESC plan approval. Table 1 (*found in Section C.1*) specifies the type of plan(s) necessary for submittal to DPW-Environmental and VADEQ based on land disturbance thresholds.

##### **a. Submit Applicable Documents to DPW-Environmental All Projects Start Here**

- (1) The project proponent is responsible for submitting one (1) hard copy and one (1) CD of the required plan(s) and supporting documentation (Ex: computations, geotechnical reports, etc.) to the DPW-Environmental Division National Environmental Policy Act (NEPA) Point of Contact (POC). Plan(s)/documents will be reviewed in accordance with permit requirements specified in the Fort Belvoir Small Municipal Separate Stormwater System (MS4) Permit.
- (2) Comments will be generated from the review and provided to the project proponent through USACE ProjNet (formerly Dr. Checks), email, or other means identified by the project proponent. The project proponent is responsible for responding to all comments in writing and for making all required revisions to the project plan(s) before re-submitting. This process will continue until the plan(s) is determined to be adequate for signature by the Director of Public Works.

(3) The DPW-Environmental Division has a minimum review time of two (2) weeks for initial submittal and subsequent re-submittals.

(4) Follow instructions below in section b or c according to project size:

- Section b: for projects less than 10,000 square feet of land disturbance, OR
- Section c: for projects over 10, 000 square feet of land disturbance

**b. Submit Approved Applicable Documents to DPW-Environmental**  
**Projects Requiring DPW Plan Approval Only (Less than 10,000 square feet of Land Disturbance)**

(1) Once the plans are determined to be adequate, four (4) hard copies of the plans will be submitted to the DPW-Environmental Division Stormwater POC for signature by the Director of Public Works. Once signed, two hard copies will be returned to the project proponent (one for construction contractor, one for the contracting authority) and two copies will be retained by the DPW (one hard copy for DPW ESC/SWM inspector and one hard copy for file). The project proponent is responsible for submitting one (1) CD that contains signed plans and any supporting documentation (calculations), if applicable, to the DPW-Environmental Division Stormwater POC for the Fort Belvoir permit files.

**c. Submit Approved Applicable Documents to DPW and VADEQ**  
**Projects Requiring DPW and VADEQ Approval (10,000 square feet and greater of Land Disturbance)**

In addition to Steps in section C.4.a. (1) – (3) outlined above, if the project plan(s) also requires VADEQ approval (See Table 1, Section 1), the following steps will be completed prior to construction commencement.

(1) The designer is responsible for submittal of all required documents to VADEQ for review and approval. Required submittal documents include, but are not limited to: one (1) hard copy of SWM and/or ESC plans, one (1) copy of all supporting documents (calculations, geotechnical reports, etc.), one (1) copy of the applicable SWM and/or ESC checklists, one (1) copy of the Completed Construction General Permit Registration Statement (original ink, signed and dated), one (1) electronic copy (CD) of all documents submitted, and designer POC, phone number and email address. The complete package should be sent to:

Virginia Department of Environmental Quality  
Northern Regional Office

Attn: April Rhodes  
13901 Crown Court  
Woodbridge, VA 22193

**Note** that due to COVID-19 the Northern Regional Office may be accepting initial electronic submittals, contact Ms. April Rhodes [april.rhodes@deq.virginia.gov](mailto:april.rhodes@deq.virginia.gov) for more information.

- (2) The designer is also responsible for submittal of (1) CD to the DPW-Environmental Division Stormwater POC that contains all documents (plans and supporting stormwater calculations, geotechnical reports, plan review checklists, etc.) that were submitted to VADEQ for review and approval.
- (3) The designer is responsible for addressing any comments received by VADEQ during the review and approval process and subsequent resubmittals until the plan is approved. For subsequent resubmittal(s) to VADEQ, one (1) copy of all documents (response to VADEQ comments, corrected plan set, corrected stormwater calculations, etc.) must be provided. In addition, one (1) CD of all documents resubmitted to VADEQ must be provided to the DPW-Environmental Division Stormwater POC at the time of resubmittal.
- (4) Per 9VAC25-870-108, VADEQ has 15 calendar days to determine if plan is complete, 60 calendar days to review initial submittal and 45 days to review for each subsequent resubmittal. Based on past plan submittals, this process takes an average of three months to obtain VADEQ approval. Approval time may be less, dependent upon the size of the project, amount of VADEQ comments, and the turnaround time for document correction by the designer. Once the plan set is approved by VADEQ, the designer is responsible for submitting to the DPW-Environmental Division Stormwater POC the following: four (4) hard copies of the VADEQ approved plans (with approval block) and one (1) CD that contains the VADEQ approved plans with the VADEQ stamped cover sheet, all supporting documents (final stormwater calculations, geotechnical reports, plan review checklist(s), etc.) submitted to VADEQ and the VADEQ Approval Letter.
- (5) Please keep in mind that a project must commence within 180 calendar days from receiving VADEQ approval. Plans that will begin outside of this time frame may be required to re-submit to VADEQ to start the review and approval process over again.

## **5. DPW-Environmental Final Approval-Land Disturbance Letter**

Once plans are approved and the construction contractor has been selected, the following steps are required prior to issuance of the Land Disturbance Letter by DPW. This letter is the final approval step needed to begin land disturbance activity at Fort Belvoir.

### **a. Submit Applicable Documents to DPW-Environmental- All Projects Start Here**

- (1) The construction contractor will provide DPW-Environmental Stormwater POC with the contractor POC responsible for insuring that SWM and/or ESC plans are executed. This POC should be a VADEQ certified Responsible Land Disturber (RLD), and record of certification shall also be provided to DPW-Environmental Division at this time. Information on what an RLD is and certification can be found here:

<http://www.deq.virginia.gov/ConnectWithDEQ/TrainingCertification/RLDGeneralInformation.aspx>

- (2) The construction contractor will complete and submit a Fort Belvoir Excavation Permit Application (Dig Permit) for processing to Janet Salyars at DPW-Business Office and Integration Division. A blank Excavation Permit Application can be picked up from Building 1442. Seven (7) copies of a to-scale map or plans are necessary for submittal with the Application. For questions about the process, please contact Janet Salyars at (703) 806-0057 or [janet.m.salyars.civ@mail.mil](mailto:janet.m.salyars.civ@mail.mil).

### **b. Submit Construction General Permit Documents to VADEQ and DPW-Environmental – Only applicable to Projects One Acre or Greater of Land Disturbance**

For projects greater than or equal to one acre of land disturbance (determined by the limits of construction), the construction contractor will complete steps (1) and (2) listed above and the additional requirements listed below:

- (1) A Construction General Permit (CGP) must be obtained from VADEQ by the construction contractor. The contractor is responsible for completing and submitting the Registration Statement prior to construction commencement. Please see <https://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermit/ConstructionGeneralPermit.aspx> for more information on the Registration Statement and associated CGP fees. As a reminder, if the construction contractor signs the Registration Statement, they are certifying that a SWPPP has already been prepared for the site. Land disturbance cannot start until the VADEQ CGP approval letter is received and provided electronically to DPW-Environmental Division Stormwater POC.

- (2) In addition to applying for the CGP, the contractor must also simultaneously prepare a Stormwater Pollution Prevention Plan (SWPPP) (see 9VAC25-870-54). For EPA guidance and SWPPP templates, please see: <https://www.epa.gov/npdes/constructiongeneral-permit-resources-tools-and-templates#swppp> The SWPPP must be submitted to DPW-Environmental along with a completed DPW-Environmental SWPPP checklist for records prior to construction project commencement (9VAC25-880-70 Part II). The DPW-Environmental Division Stormwater POC may be contacted to obtain a copy of the SWPPP checklist.

**c. Final Approval-DPW Land Disturbance Letter - All Projects**

Once all project documentation has been received by the DPW-Environmental Division Stormwater POC, the Land Disturbance Letter (LDL) will be issued by DPW. This letter documents that all stormwater requirements have been met and authorizes construction commencement, and is the final piece of paper required for breaking ground.

- (1) Submit and ensure that the DPW-Environmental Division Stormwater POC has received the applicable items listed below in order to receive the LDL.
- VADEQ Plan Approval Letter
  - VADEQ CGP Approval Letter (for sites greater than or equal to one acre in size)
  - SWPPP (for sites greater than or equal to one acre in size)
  - RLD Certificate
  - Four (4) hard copies of the VADEQ Approved Plans
  - One (1) CD containing all the above documents
  - Excavation Permit (DIG Permit) Application- **Please note the LDL will be held until dig permit approval. Ensure the dig permit application is submitted along with the documents above.**

(2) Schedule a Pre-Construction Meeting

Prior to groundbreaking, the construction contractor is required to contact the DPW-Environmental Division Stormwater POC (See Section C) to schedule a pre-construction meeting to review requirements of ESC plans, SWPPP and the CGP.

(3) Notify DPW-Stormwater POC Projected Ground-Breaking Day

After receiving the LDL and prior to groundbreaking, the construction contractor is required to contact the DPW-Environmental Division Stormwater POC (See Section C.) for assignment to a Fort Belvoir DPW-Environmental Division, Virginia certified, ESC and SWM inspector.

## **6. ESC/SWM Compliance During Construction**

Once the construction project has started, the DPW-Environmental Division ESC/SWM inspector will conduct routine site inspections once every two weeks and within 48 hours after a rainfall event which produces greater than 0.5” of rain, and provide a written report of any deficiencies noted during the inspection. The RLD and a contracting officer’s representative is required to accompany the DPW-Environmental Division ESC/SWM inspector. ESC inspections are based upon the requirements identified in the Virginia Minimum Standards found at 9VAC25-840-40:

<http://leg1.state.va.us/cgibin/legp504.exe?000+reg+9VAC25-840-40> and conditions specified in the General Permit for Discharges of Stormwater from Construction Activities (General Permit No. VAR10 (9VAC25-880-70)). The DPW-Environmental Division ESC/SWM inspector will periodically conduct site inspections during the construction of the permanent stormwater management facilities.

Table 2 outlines the progressive compliance and enforcement strategy that Fort Belvoir DPW will implement to ensure that contractors are conducting land disturbance responsibly and in accordance with Virginia Department of Environmental Quality stormwater management and erosion and sediment control regulations.

<b>Table 2. Progressive Compliance and Enforcement Strategy</b>	
<b>Non-Compliance Item</b>	<b>DPW-ENVIRONMENTAL Response</b>
Failure to obtain a Construction General Permit (CGP) and/or an approved SWM and/or ESC plan from VADEQ prior to start of construction.	Email notice of Non-Compliance sent to the Contracting Officer (CO); VADEQ Northern Regional Office notified via telephone within 24 hours of discovery.
Failure to provide copies of approved SWM and/or ESC plans, CGP authorization letter, SWPPP and/or Responsible Land Disturber certification to DPWEnvironmental.	Email notice of Non-Compliance sent to the Contracting Officer’s Representative (COR); Land disturbance letter not issued by DPW until applicable plans, permits, SWPPP and Responsible Land Disturber certification are received by DPW-Environmental.
Non-compliance with ESC minimum standards (9VAC25-840-40), failure to update SWPPP, failure to install ESC measures as a first step before any land disturbance	1 <sup>st</sup> violation: DPW-Environmental Inspector notes on ESC inspection report and contractor is expected to correct; 2 <sup>nd</sup> repeat violation: Email warning notice sent to the Contract Representative from the MS4 Stormwater Program Manager;

	3 <sup>rd</sup> repeat violation: Warning Letter sent to the Contract Representative signed by the Director of Public Works, VADEQ notified; 4 <sup>th</sup> repeat violation: Notice of Non-Compliance sent to the Contract Representative signed by the Garrison Commander; 5 <sup>th</sup> repeat violation: Referred to VADEQ for compliance assistance.
Release of any substance causing a reportable spill (including concrete wash out, paint runoff, or excess sediment)	DPW director notified and email warning notice sent to the Contract Representative.

### **7. ESC/SWM Compliance upon Construction Completion**

- (1) Upon completion of the construction project, the DPW-Environmental Division ESC/SWM inspector will perform a final inspection and release the contractor when all deficiencies that were noted have been corrected. At this time, copies of all close out documents (Notice of Termination Form, construction as-built drawings, and any manufacturer maintenance specifications for permanent SWM facilities) shall be submitted to the DPW-Environmental Division Stormwater POC on one (1) CD for records purposes and review prior to the next step.
- (2) The contractor is responsible for submission of the Notice of Termination (NOT) of the CGP to the VADEQ (Department of Environmental Quality, Office of Stormwater Management, Suite 1400, P.O. Box 1105, Richmond, Virginia 23218, [constructiongp@deq.virginia.gov](mailto:constructiongp@deq.virginia.gov). A blank VADEQ NOT is located online at: <https://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx>. As part of this submission, the contractor is required to submit the construction as-built drawings (9VAC25-870-55) to the VADEQ on one (1) CD. The construction as-built drawing shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia, certifying that the SWM facilities have been constructed in accordance with the approved plan.
- (3) Contractor cannot close out the CGP without complete and final permanent stabilization of the project site. VADEQ defines this as a stand of grass that is “uniform, mature enough to survive and inhibit erosion.”

## **C. DPW-ENVIRONMENTAL POINT OF CONTACTS**

### **1. DPW-Environmental Division NEPA POC:**

Name, Email and Phone Number: Ms. Janesse Colon-Ruiz, NEPA Program Manager  
janesse.s.colonruiz.civ@mail.mil  
703-806-4008

Ms. Nicola Cowen, NEPA Program Support  
nicola.d.cowen.ctr@mail.mil  
703-806-0054

Physical Location: Bldg 1442, 2<sup>nd</sup> Floor, Room 226

Mailing Address: 9430 Jackson Loop, Bldg 1442  
Directorate of Public Works  
Fort Belvoir, VA 22060

### **2. DPW-Environmental Division Stormwater POC:**

Name, Email and Phone Number: Ms. Yari Chiro, MS4 Program Manager  
yarelis.chiro.civ@mail.mil  
703-806-3406

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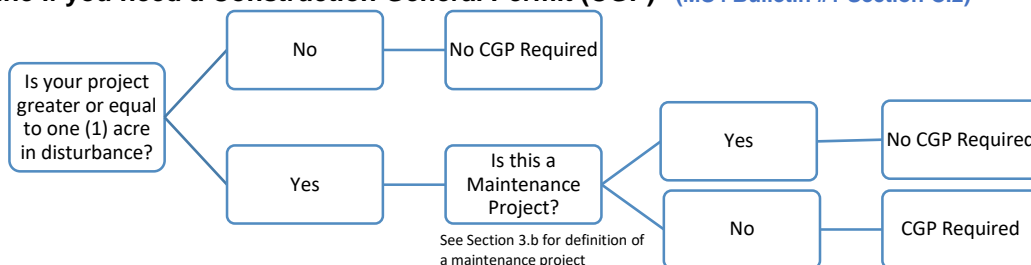
# Quick Reference Guide to MS4 Bulletin #1

## 7 Simple Steps to ESC/SWM Compliance for construction projects at Fort Belvoir

### 1. Identify Project Size and Determine Required Plans and Review Authority (MS4 Bulletin #1 Section C.1)

Project Size	Plans Required	Review Authority
Less than 2,499 sq.ft.	None	DPW-Environmental Division
Between 2,500 sq.ft. and 9,999 sq.ft.	ESC & SWM	DPW-Environmental Division
Between 10,000 sq.ft. and 43,559 sq.ft.	ESC & SWM	VADEQ (for ESC portion only)
Greater than or equal to one (1) acre	ESC & SWM	VADEQ (for ESC & SWM)

### 2. Determine if you need a Construction General Permit (CGP) (MS4 Bulletin #1 Section C.2)



### 3. Review Requirements for Specific Plans and Prepare the Required Plans (MS4 Bulletin #1 Section C.3)

Stormwater Management Plan Quick Reference Checklist	Erosion and Sediment Control Plan Quick Reference Checklist
<ul style="list-style-type: none"><li>❑ If land disturbance is over 5,000 sf. Compliance with Section 438 of the Energy Independence and Security Act (EISA 438).</li><li>❑ Incorporate Low Impact Development Best Management Practices</li><li>❑ Address all components outlined in 9VAC25-870-55</li><li>❑ Utilize stormwater management BMPs from the Virginia BMP Clearinghouse</li><li>❑ Use the Virginia Runoff Reduction Method (VRRM) Spreadsheet</li><li>❑ Each stormwater outfall location on the project site must be evaluated for Channel Protection and Flood Protection to the defined Limits of Analysis.</li><li>❑ Comply with Chapter 6 of the Fairfax County Public Facilities Manual (PFM)</li><li>❑ Completed VADEQ SWM Plan Review Checklist</li><li>❑ Plans appropriately sealed and signed by appropriate professional</li></ul>	<ul style="list-style-type: none"><li>❑ Comply with the 19 Virginia Minimum Standards (9VAC25-840-40).</li><li>❑ Utilize erosion and sediment control standards and specifications listed in Chapter 3 of the Virginia Erosion and Sediment Control Handbook (VESCH).</li><li>❑ Nomenclature for erosion and sediment control measures shall be consistent with the VESCH and must follow the Virginia Uniform Coding System.</li><li>❑ Comply with Chapter 11 of the Fairfax County Public Facilities Manual (PFM)</li><li>❑ VADEQ ESC Plan Review Checklist completed by the designer and provided with plan submittal</li></ul>

### 4. Submit Plans for Review and Approval (MS4 Bulletin #1 Section C.4)

#### All Projects:

1. Submit one (1) hard copy and one (1) CD of the required plan(s) and supporting documentation to the DPW-ENV
2. Address comments made by DPW-ENV and resubmit plans as needed

#### Projects Requiring DPW Plan Approval Only < 10,000 square feet of Land Disturbance

Once the plans are determined to be adequate submit the following to the DPW-Environmental Division Stormwater POC:

- four (4) hard copies of the plans for signature by the Director of Public Works.
- one (1) CD that contains signed plans and any supporting documentation (calculations), if applicable.

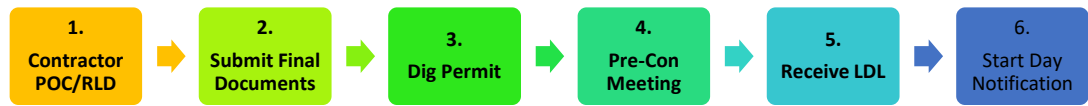
#### Projects Requiring DPW and VADEQ Approval >10,000 square feet of Land Disturbance

1. Submit all documents to VADEQ for Approval
2. Submit copies of **ALL** documents submitted to VADEQ to DPW-ENV
3. Address any comments received by VADEQ and resubmit as needed
4. Ensure to provide copies of all re-submittals to DPW-ENV

#### Projects > 1 Acre of Land Disturbance will also need to:

5. Submit Registration Statement for CGP to VADEQ
6. Prepare and submit Stormwater Pollution Prevention Plan to DPW-ENV

5. Submit final documentation to receive a DPW Land Disturbance Letter (LDL) (MS4 Bulletin #1 Section C.5)



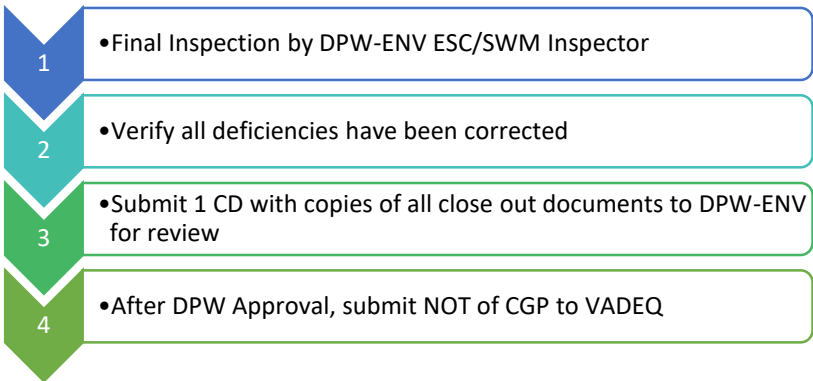
- 1. Provide contractor POC responsible for insuring that SWM and/or ESC plans are executed. This POC should be a VADEQ certified Responsible Land Disturber (RLD). Provide RLD Certificate.
- 2. Submit and/or ensure DPW-ENV has received the following:
  - ☐ VADEQ Plan Approval Letter
  - ☐ VADEQ CGP Approval Letter (for sites ≥1 acre)
  - ☐ SWPPP (for sites >1 acre)
  - ☐ RLD Certificate
  - ☐ Excavation Permit (DIG Permit)
  - ☐ Four (4) hard copies of the VADEQ Approved Plans
  - ☐ One (1) CD containing all the above documents
- 3. Submit a Fort Belvoir Excavation Permit Application
- 4. Schedule the Pre-Construction Meeting
- 5. Receive LDL from DPW-ENV
- 6. Notify construction start day to DPW-Environmental Stormwater POC

Construction may begin ONLY after receiving the Land Disturbance Letter (LDL)

6. Follow ESC/SWM Compliance during Construction (MS4 Bulletin #1 Section C.6)

- 1 Conduct Internal ESC/SWM Inspection and Maintenance
- 2 Assist, respond and address compliance issues in DPW Inspection Reports

7. Follow ESC/SWM Compliance upon Construction Completion (MS4 Bulletin #1 Section C.7)



**Close Out Documents Checklist**

- ☐ Notice of Termination Form
- ☐ Construction as-built drawings
- ☐ Manufacturer maintenance specifications for permanent SWM facilities, if applicable

Reminder CGP cant be close out until site has reached final permanent stabilization: “uniform, mature enough to survive and inhibit erosion”.

Please refer to MS4 Bulletin #1 for more details. Most up to date Version can be found here:  
<https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division>



## **Fort Belvoir Directorate of Public Works (DPW) Municipal Separate Storm Sewer System (MS4) Program**

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### **Erosion & Sediment Control Technical Bulletin #1: DEWATERING OPERATIONS**

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#### ***APPLICABILITY***

This bulletin is applicable to Garrison, Tenant and Contractor Operations for emergency and non-emergency dewatering operations.

#### ***BACKGROUND***

In order to comply with the Virginia Pollution Discharge Elimination System (VPDES), Virginia Stormwater Management Program (VSMP) Permits, and the Virginia Erosion and Sediment Control (ESC) Regulations published by the Virginia Department of Environmental Quality (VADEQ), specific guidelines must be followed during dewatering operations on construction sites and during maintenance and repair operations to prevent unauthorized discharges of sediment into the Fort Belvoir storm sewer system and wetlands.

#### ***NOTIFICATION***

For construction sites, when dewatering operations, either emergency or non-emergency, are to be employed, please contact the ESC inspector that has been assigned to your project. All others may contact Ms. Yari Chiro at 703-806-3406.

#### ***GENERAL CONSIDERATIONS***

1. IN ALL INSTANCES, PUMPING DIRECTLY INTO THE STORM SEWER SYSTEM IS PROHIBITED!
2. The accumulated sediment which is removed from a dewatering device must be spread on-site and stabilized.
3. Furnishing materials necessary for meeting dewatering best management practice standards is the responsibility of the personnel performing the construction/maintenance activity.

#### ***BEST MANAGEMENT PRACTICES***

The following practices are examples of potential best management practices to meet the minimum standards and regulations from VADEQ for use during both emergency and non-emergency dewatering operations.

1. **Geotextile Silt Bag:** Direct all pump discharge into a geotextile silt bag. The following specifications must be followed to insure proper use of a silt bag:
  - The silt bag must be sized according to the pump size.

- The silt bag must be located on top of non-erodible material. This can be well established grass, stone, pavement, riprap, etc. In no case may the silt bag be located on top of bare earth/mud.
  - If the silt bag is located adjacent to a stormwater structure (curb inlet, yard inlet, etc), another erosion and sediment control measure should be used on that structure to further filter the water. For example, if the silt bag is placed on the pavement next to a curb inlet, install stone inlet protection or a gutter buddy on the curb inlet for additional filtration.
  - The area where the silt bag is positioned must be flat or gently sloped to encourage the runoff to drain properly.
  - Ensure that the water runoff from the silt bag is not causing erosion.
  - Tie a water-tight connection between the hose and silt bag to prevent unfiltered water from leaving the silt bag.
  - The silt bag should be checked on a regular basis to ensure there is **CLEAR** water leaving it.
  - Replace the bag if it is damaged, when it no longer filters sediment (i.e. the exiting water is no longer clear), or is not passing water at a reasonable rate.
  - Once full, the silt bag can either be disposed of altogether or opened up and the sediment distributed back onsite and stabilized.
  - Restore the surface area beneath the bag to original condition upon removal of the silt bag.
2. **Existing Sediment Traps or Basins:** All pump discharge should be directed toward existing sediment traps or basins located within the construction site Limits of Disturbance (LOD) in such a manner not to cause bank erosion of the trap or basin.
- Pump discharge into the trap or basin should be directed toward the point furthest away from the outfall to allow for the settling out of sediment before the water reaches the outfall.
  - Discharging directly into an outlet or riser is not authorized.
  - Additional slope and/or inlet protection may be warranted.
  - Existing sediment trap or basin must be properly maintained in accordance with Virginia Erosion and Sediment Control Handbook (VESCH) Standard and Specification 3.13 and 3.14.
3. **Filter Box (VESCH) Std & Spec 3.26, page III-241:** Direct all pump discharge through a filter box.
- Consult VESCH for design and construction of the filter box.
  - The discharge from the filter box must be directed onto a well-established grass area a minimum distance of 50 feet between the discharge point and any channel.
  - Install gravel curb inlet sediment filters, or “rock socks”, to all curb inlets that may receive discharge water.
  - The device must be properly maintained in accordance with VESCH specifications to insure that the device adequately performs the function of sediment filtration.

4. **Portable Sediment Tank (VESCH Std & Spec 3.26, page III-239):** Direct all pump discharge into a portable sediment tank.
  - Consult VESCH for design and construction of the portable sediment tank.
  - Transport sediment tanks that have reached their capacity to a location within the construction site LOD and redistribute onsite.
  - The device must be properly maintained in accordance with VESCH specifications to insure that the device adequately performs the function of sediment filtration.
5. **Straw Bale/Silt Fence Pit (VESCH Std & Spec 3.26, page III-243):** For exceptionally large dewatering operations, construct a straw bale/silt fence pit in an area without underground utilities or environmental constraints. Install gravel curb inlet sediment filters (VESCH Std & Spec 3.07), or “rock socks”, to all curb inlets that may receive discharge water.

**DPW-ENVIRONMENTAL DIVISION STORMWATER POC:**

Name, Email and  
Phone Number:

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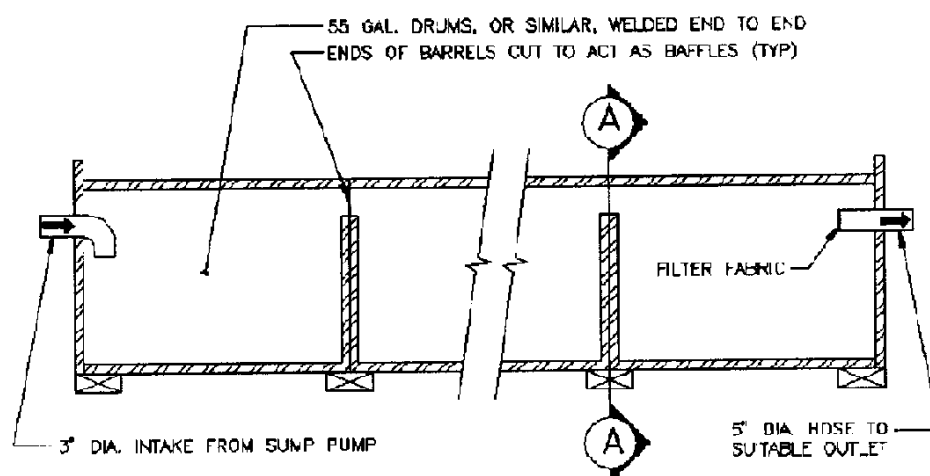
Physical Location:

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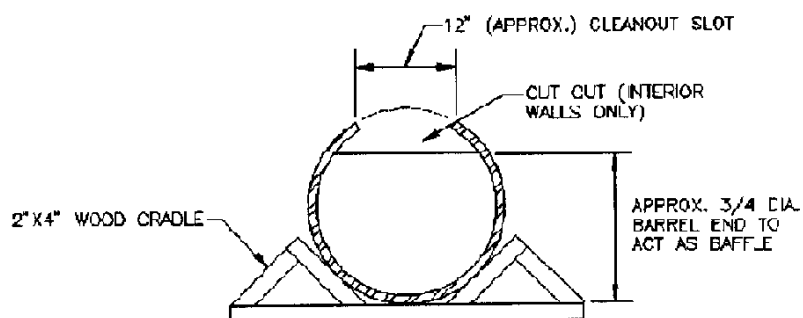
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## *PORTABLE SEDIMENT TANK*



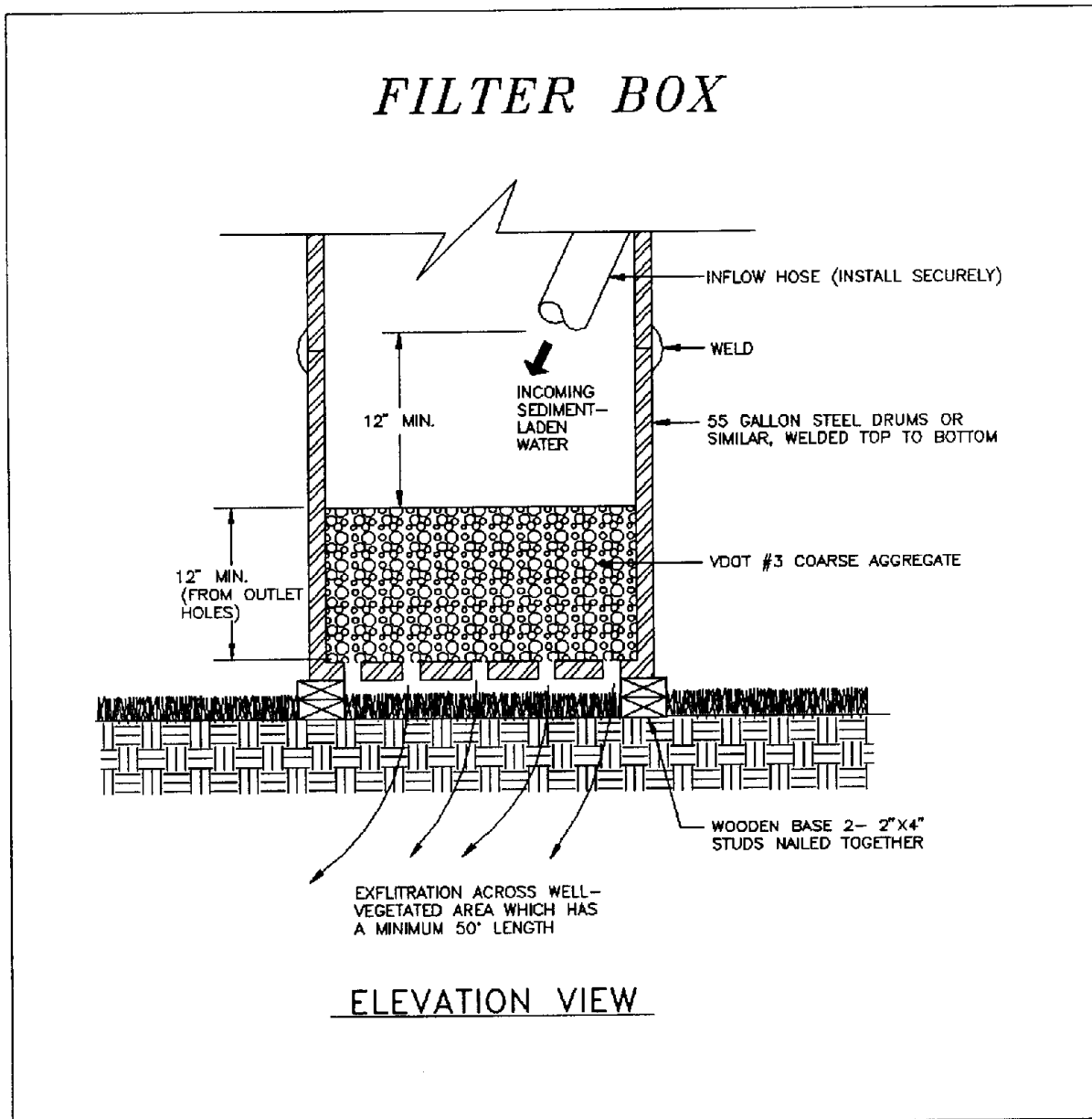
ELEVATION



CROSS-SECTION A-A

Source: USDA-SCS

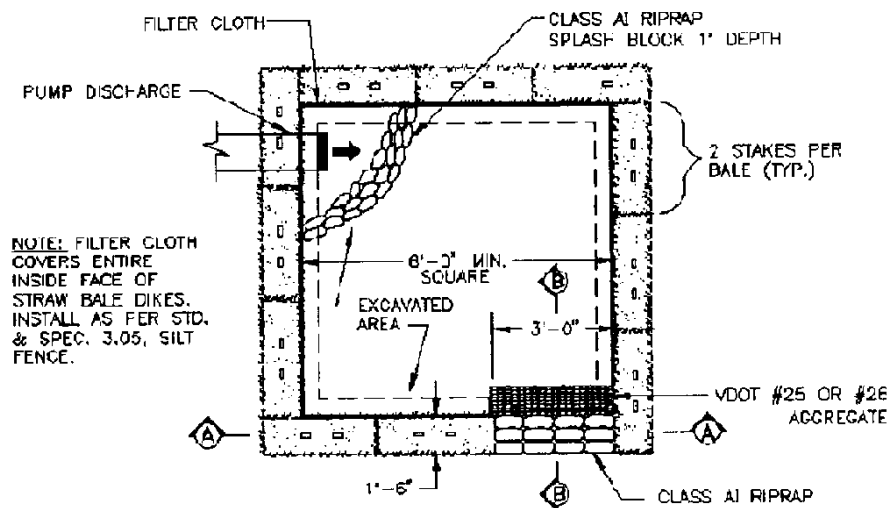
Plate 3.26-1



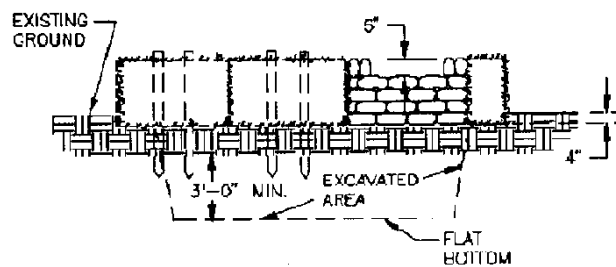
Source: Va. DSWC

Plate 3.26-2

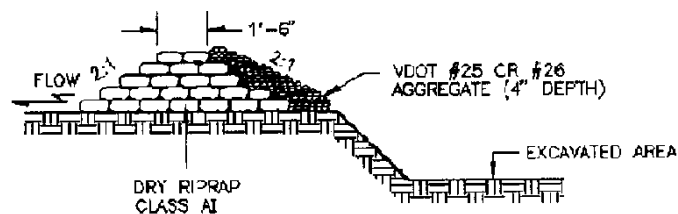
# STRAW BALE/SILT FENCE PIT



PLAN VIEW



CROSS-SECTION A-A

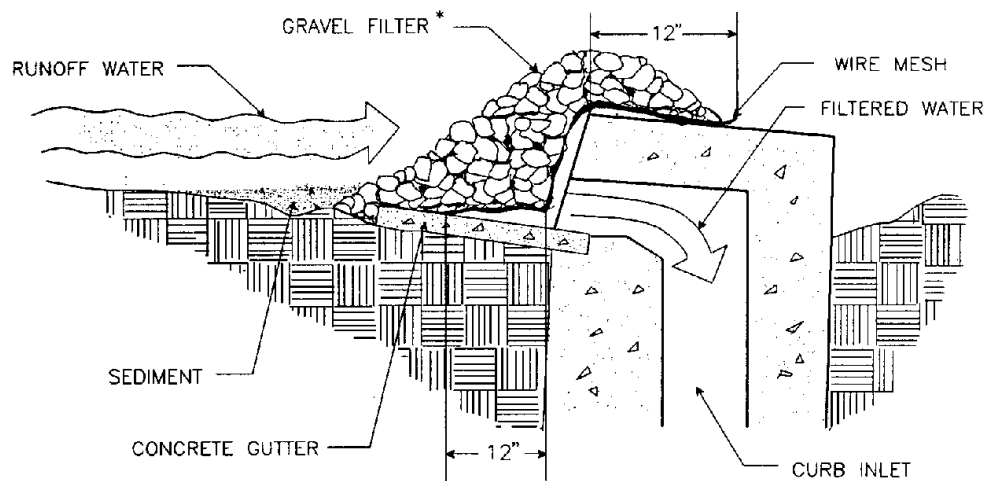
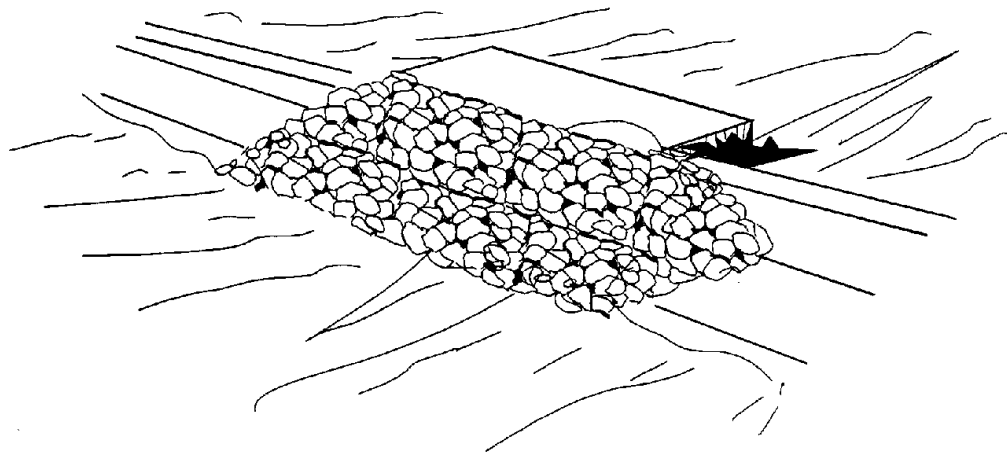


CROSS-SECTION B-B

Source: Va. DSWC

Plate 3.26-3

## *GRAVEL CURB INLET SEDIMENT FILTER*



### SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

\* GRAVEL SHALL BE VDOT #3, #357 OR 5 COARSE AGGREGATE.



**Fort Belvoir Directorate of Public Works (DPW)  
Municipal Separate Storm Sewer System (MS4) Program**

***Erosion & Sediment Control Technical Bulletin #3:***  
***EROSION & SEDIMENT CONTROL REQUIREMENTS FOR UTILITY INSTALLATION***

***APPLICABILITY***

This bulletin is applicable to Garrison, Tenant and Contractor Operations for excavation or installation of linear utilities.

***BACKGROUND***

All work associated with the installation, maintenance, and repair of panel racks, conduit, manholes, and underground utility (communication, water, sewer, power, natural gas) lines must be conducted in accordance with the standards and specifications outlined in the Virginia Erosion and Sediment Control Handbook (VESCH) and in accordance with Minimum Standard 16 for Utilities (9VAC25-840-40.A.16).

***EROSION AND SEDIMENT CONTROL REQUIREMENTS***

If the project involves an area of land disturbance that is greater than 2,500 square feet, an Erosion and Sediment Control plan is to be submitted to DPW-Environmental. Refer to Fort Belvoir MS4 Program Bulletin #1 for more information on plan development and review requirements.

Regardless of the size of the area of land disturbance, the contractor is responsible for:

- Installing and maintaining erosion and sediment control measures to ensure disturbed ground does not leave the work site;
- Removing all excavated materials not required from the work site once the work has been completed;
- Grading the disturbed area once the work has been completed;
- Seeding and/or mulching the disturbed area(s)
- Employing dewatering procedures in accordance with Minimum Standard 16, the VESCH, and the Virginia Erosion and Sediment Control Regulations (VESCRC).

In addition to the above, underground utility lines shall be installed in accordance with the following standards along with any other applicable criteria:

- No more than 500 linear feet of trench may be opened at one time
- Excavated material shall be placed on the uphill side of trenches
- Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device and discharged in a manner that does not adversely affect off-site property
- Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization
- Restabilization shall be accomplished in accordance with Std. & Spec. 3.32 or 3.33 of the VESCH
- Applicable safety regulations shall be complied with

The contractor is to notify DPW-Environmental when work has been completed to arrange for an inspection. This inspection will ensure that requirements of VESCRC, the VESCH, and Minimum Standard 16 have been met.

***DPW-ENVIRONMENTAL POINT OF CONTACT***

Ms. Yari Chiro, MS4 Program Manager, 9430 Jackson Loop, Building 1442, Room 226, Directorate of Public Works, Fort Belvoir; Phone: 703-806-3406; Email: [yarelis.chiro.civ@mail.mil](mailto:yarelis.chiro.civ@mail.mil)

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**Fort Belvoir Directorate of Public Works (DPW)  
Municipal Separate Storm Sewer System (MS4) Program**

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***Erosion & Sediment Control Technical Bulletin #4:***  
**STORMWATER POLLUTION PREVENTION REQUIREMENTS FOR  
SMALL PROJECTS AND RENOVATION PROJECTS**

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**APPLICABILITY**

This bulletin is applicable to Garrison, Tenant and Contractor Operations for small construction projects that involve less than 2,500 sq.ft. of land disturbance and building renovation projects.

**BACKGROUND**

While projects less than 2,500 sq.ft. are not required to obtain a Virginia Department of Environmental Quality (VADEQ) Construction General Permit or go through any formal plan submittal & review process, projects are still held to the pollution prevention/good housekeeping requirements of Fort Belvoir's Small Municipal Separate Storm Sewer System (MS4) permit (VAR040093) (9VAC25-890-40 Section II.A.6).

**EROSION AND SEDIMENT CONTROL REQUIREMENTS**

Erosion and Sediment Control (ESC) practices over the course of work prevent discharges of sediment laden water to the storm sewer system. The following ESC practices are required to be implemented, when applicable.

- Install and maintain erosion and sediment control measures to ensure disturbed ground does not leave the work site. These measures will be left in place until final stabilization has been achieved.
  - o Silt fence (VESCH STD. & SPEC. 3.05) should be installed on the downslope side of any disturbed area, and along walkways or roadways (see attached).
  - o Inlet protection (VESCH STD. & SPEC. 3.07) should be installed on all inlets nearby and immediately downstream of the project site (see attached).
- Removing all excavated materials not required from the work site once the work has been completed.
- Grading the area once the work has been completed.
- Seeding and/or mulching the disturbed area to bring to final stabilization.

The contractor is to notify DPW-Environmental when work has been completed to arrange for an inspection. This inspection will ensure that requirements of VESCR and the VESCH have been met.

**STORMWATER MANAGEMENT REQUIREMENTS**

The contractor is responsible for using good practices to prevent the discharge of pollutants into the storm sewer system during work. The following list outlines practices that should be implemented during the course of work to prevent illicit discharges, when applicable.

- Portable toilets must be located a minimum distance of 25 feet away from the nearest Stormwater feature (inlets, swale, pond, etc.), they must also be maintained and cleaned, inspected for leaks, and placed on a level surface.
- Wash waters from equipment and vehicle washing, wheel wash water, and other wash waters must be treated in a temporary sediment basin or alternative control that provides an equal or greater level of treatment prior to discharging.

- If temporary fuel tanks are necessary, contact the Petroleum & Spill Response Program Manager at (703) 806-3694. These tanks must be a minimum distance of 25 feet away from the nearest Stormwater feature. Ensure that the temporary fuel tank has secondary containment, and if a plug is used with the secondary containment, the plug must remain in place for the duration of the project.
- For construction material storage, materials must be stored in a manner where they will not come in contact with Stormwater, i.e. covered and up off the ground. These materials must also be a minimum distance of 25 feet away from the nearest Stormwater feature. Materials include but are not limited to building products, construction wastes, trash, landscape materials, fertilizers, pesticides, detergents, paint, stucco, concrete, oils, gasoline, sealants, copper flashing, curing compounds, etc...
- For concrete use on site, a concrete washout must be utilized in accordance with the EPA Concrete Washout Guidelines.
- All dewatering operations must be performed in accordance with the Fort Belvoir ESC Technical Bulletin #1: Dewatering Operations.
- A "Spill Response Procedures" Placard must be posted, and followed should there be any spill on the site. This placard is attached to this bulletin. The contractor shall minimize discharges of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.
- A map outlining the locations of possible pollutant generating activities should be kept and maintained during the course of the work to be performed, and should include locations of trailers, dumpsters, staging and storage areas, vehicle washout area, concrete washout area, portable toilet area, and ingress/egress from site.

The following procedures are prohibited:

- Discharge of sanitary waste.
- Discharge of wash waters from equipment and vehicle washing, unless managed by an appropriate control.
- Discharge of soaps or solvents used in vehicle and equipment washing.
- Discharge of fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.
- Discharge of concrete washout water, unless managed by an appropriate control.
- Discharge from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed by an appropriate control.
- Discharge of wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials.

#### ***DPW-ENVIRONMENTAL POINT OF CONTACT***

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Mr. Anthony Gartrell, Stormwater BMP Compliance  
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Physical Location: Bldg 1442, 2<sup>nd</sup> Floor, Room 226

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Directorate of Public Works  
Fort Belvoir, VA 22060



## **Fort Belvoir Directorate of Public Works (DPW) Municipal Separate Storm Sewer System (MS4) Program**

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### **Erosion & Sediment Control Technical Bulletin #2: STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS**

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#### **APPLICABILITY**

This bulletin is applicable to all Garrison, tenant and contractor operations for projects involving land disturbance equal to or greater than one acre.

#### **BACKGROUND**

In order to comply with the Virginia Pollution Discharge Elimination System (VPDES), Virginia Stormwater Management Program (VSMP) Permits, and the Virginia Erosion and Sediment Control (ESC) Regulations published by the Commonwealth of Virginia, a Stormwater Pollution Prevention Plan (SWPPP) must be developed for construction projects prior to submission of a General Permit for Discharges of Stormwater From Construction Activities Construction General Permit (CGP) registration statement to Virginia Department of Environmental Quality (VADEQ) and implemented for the construction activity covered by the General Permit for Discharges of Stormwater From Construction Activities (9VAC25-880-70). As the MS4 Permit holder, Fort Belvoir Directorate of Public Works, Environmental Division (DPW-Environmental) reviews SWPPP's to ensure protection of stormwater quality that discharges into the Municipal Separate Storm Sewer System (MS4).

#### **STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS**

Stormwater Pollution Prevention Plans shall be prepared which address requirements of 9VAC25-880-70, Section II Stormwater Pollution Prevention Plan. Guidance on required components of the SWPPP may be found at: <http://lis.virginia.gov/cgi-bin/legp604.exe?000+reg+9VAC25-880-70>, and SWPPPs shall follow the template provided by the U.S. Environmental Protection Agency website at: <https://www.epa.gov/npdes/construction-general-permit-resources-tools-and-templates#swppp>.

DPW-Environmental will review SWPPP's based on the attached checklist and provide comments to ensure that SWPPP's comply with federal, state, and county stormwater management requirements. Comments generated from the SWPPP review will be provided to the construction contractor electronically by email. Once the SWPPP is deemed adequate, the construction contractor will submit a copy of the signed SWPPP to DPW-Environmental along with a copy of the VSMP permit registration statement and a copy of the check to prove payment. In addition, once the contractor has received the state permit coverage letter from VADEQ, a copy shall be provided to DPW-Environmental.

## **SWPPP COMPLIANCE DURING CONSTRUCTION**

The SWPPP shall be retained, along with a copy of the Virginia VSMP General Permit, registration statement and state permit coverage letter from VADEQ, at the construction site or other location easily accessible during normal business hours from the date of commencement of construction activity to the date of final stabilization. A copy of the state permit coverage letter from VADEQ must also be posted on the job board on site, easily viewable by all.

The SWPPP must be made available, in its entirety, to the VADEQ, the VSMP authority, and the operator of a MS4 receiving discharges from the site for review at the time of an on-site inspection. If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the SWPPP's location must be posted near the main entrance at the construction site.

The construction contractor shall amend the SWPPP whenever there is a change in design, construction, operation, and/or maintenance that has a significant effect on the discharge of pollutants to state waters and that has not been previously addressed in the SWPPP. The SWPPP must be amended if, during ESC inspections, it is determined that the existing ESC measures are ineffective in minimizing pollutants in stormwater discharges from the construction site. Revisions to the SWPPP shall include additional or modified control measures designed to correct problems identified.

## **DPW-ENVIRONMENTAL DIVISION STORMWATER POC:**

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	Mr. Anthony Gartrell, Stormwater BMP Compliance anthony.k.gartrell.civ@mail.mil 703-806-3437
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Mailing Address:	9430 Jackson Loop, Bldg 1442 Directorate of Public Works Fort Belvoir, VA 22060