



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
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FORT BELVOIR, VIRGINIA 22060-5928

VIRGINIA DEPARTMENT OF SOIL & WATER CONSERVATION  
CENTRAL OFFICE - RICHMOND

2008 DEC 36 A 9:29

REPLY TO  
ATTENTION OF

DEC 31 2008 D

Directorate of Public Works

SUBJECT: Municipal Separate Storm Sewer System (MS4) Registration Statement

Mr. J. Douglas Fritz  
MS4 Program Manager  
Virginia Department of Conservation and Recreation  
203 Governor Street  
Richmond, Virginia 23219-2010

Dear Mr. Fritz:

Enclosed is the MS4 Registration Statement for the Fort Belvoir updated Small Municipal Separate Storm Sewer System (MS4) Permit Program Plan.

Point of contact is Bill Sanders, Director of Public Works, at 703-806-3017.

Sincerely,

Jerry L. Blixt  
Colonel, US Army  
Commanding

Enclosure

**“EXCELLENCE THROUGH SERVICE”**





Department of Conservation & Recreation  
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

### VSMP GENERAL PERMIT REGISTRATION STATEMENT FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS [VAR04]

(Please Type or Print All Information)

(The applicable fee specified in Form DCR 199-145 must additionally be submitted to the address given in that form to obtain coverage)

**1. Regulated Small MS4**

Name: Fort Belvoir

Type:  City  County  Incorporated Town  Unincorporated Town  College or University  
 Local School Board  Military Installation  Transport System  Federal or State Facility  Other

Location (County or City): Fairfax County

**2. Regulated Small MS4 Operator**

Name: US Army Garrison Fort Belvoir

Address: 9430 Jackson Loop, Suite 100

City: Fort Belvoir State: VA Zip: 22060

**3. Hydrologic Unit Code(s) as identified in the most recent version of Virginia's 6th Order National Watershed Boundary Dataset currently receiving discharges or that have potential to receive discharges from the regulated small MS4:**

A14--Dogue Creek; A15--Accotink Creek; A16--Pohick Creek

**4. Attach a description of the estimated drainage area, in acres, served by the regulated small MS4 discharging to any impaired receiving surface waters listed in the most recent Virginia 305(b)/303(d) Water Quality Assessment Integrated Report, and a description of the land use of each such drainage area. Attached**

**5. Any TMDL waste loads allocated to the regulated small MS4 (this information may be found at <http://www.deq.state.va.us/tmdl/develop.html>): Attached**

**6. The name(s) of any regulated physically interconnected MS4s to which the regulated small MS4 discharges.**  
Fairfax County

**7. A copy of the MS4 Program Plan that includes: Attached**

**a. A list of BMPs that the operator proposes to implement for each of the stormwater minimum control measures and their associated measurable goals pursuant to 4VAC50-60-1240, Section II B; that includes:**

**i. A list of the existing policies, ordinances, schedules, inspection forms, written procedures, and other documents necessary for BMP implementation; and**

**ii. The individual, department, division, or unit responsible for implementing the BMP;**

**b. The objective and expected results of each BMP in meeting the measurable goals of the stormwater minimum control measures;**

**c. The implementation schedule including any interim milestones for the implementation of a proposed new BMP; and**

d. The method that will be utilized to determine the effectiveness of each BMP and the program as a whole.

8. List all existing signed agreements between the operator and any applicable third parties where the operator has entered into an agreement in order to implement minimum control measures or portions of minimum control measures.

Lease agreement with Clark-Pinnacle for family housing areas  
Installation service support agreements with DoD tenant organizations  
Stormwater easement with VDOT for pond maintenance along Telegraph Road/Fairfax Parkway

9. The name, address, telephone number and e-mail address of either the principal executive officer or ranking elected official as defined in 4VAC50-60-370.

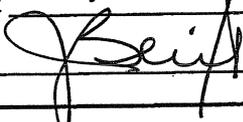
COL Jerry L. Blixt  
9820 Flagler Road, Fort Belvoir, VA 22060  
jerry.blixt@us.army.mil

10. The name, position title, address, telephone number and e-mail address of any duly authorized representative as defined in 4VAC50-60-370.

Bill L. Sanders, Director of Public Works  
9430 Jackson Loop, Suite 100, Fort Belvoir, VA 22060  
bill.sanders1@us.army.mil

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

Print Name: Jerry L. Blixt Title: Colonel, Installation Commander

Signature:  Date: 31 Dec 08

For Department of Conservation and Recreation Use Only

Accepted/Not Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_

Basin \_\_\_\_\_ Stream Class \_\_\_\_\_ Section \_\_\_\_\_ Special Standards \_\_\_\_\_

Fort Belvoir  
Attachment for Parts 4 and 5  
VSMP GENERAL REGISTRATION STATEMENT FOR STORM WATER  
DISCHARGES FOR SMALL MUNICIPAL SEPARATE STORM SEWER  
SYSTEMS

**4—Drainage Area Description**

Dogue Creek: Fort Belvoir owns 3856 acres in the watershed. The average impervious area is 15.2 percent comprised of Administrative, Community, Recreation, and Housing land uses.

Accotink Creek: Fort Belvoir owns 4514 acres in the watershed. The average impervious area is 10.2 percent comprised of Administrative, Community, Recreation, Training, and Housing land uses.

Pohick Creek: Fort Belvoir owns 1265 acres in the watershed. The average impervious area is 0.2 percent comprised of Training and Recreation land uses.

**5—TMDL Waste Load Allocations**

Dogue Creek: Fecal Coliform

Accotink Creek: Ammonia, Fish Tissue – PCBs, General Standard (Benthic),  
Fecal Coliform, e Coli

Pohick Creek: Fish Tissue – PCBs, PAH (2002)

Fort Belvoir  
Attachment for Part 7  
VSMP GENERAL REGISTRATION STATEMENT FOR STORM WATER  
DISCHARGES FOR SMALL MUNICIPAL SEPARATE STORM SEWER  
SYSTEMS

**Permit Administration**

To comply with the new requirements included in the General Permit (updated 9 July 2008) for Discharges to Small Municipal Separate Storm Sewer Systems (MS4) Fort Belvoir has revised, and where necessary, provided additional schedules to implement its MS4 Program and MS4 Program Plan including its Best Management Practices (BMPs) and measurable goals. The option to apply for and obtain coverage under an individual Virginia Stormwater Management Program (VSMP) permit instead of meeting the conditions of the General Permit is available to Fort Belvoir, but is not being considered at this time.

**Responsible Party:** The MS4 program is administered through the Directorate of Public Works (DPW). The DPW Director is responsible for developing and implementing the updated MS4 Program Plan. The Fort Belvoir Installation Commander is responsible for providing the appropriate certification for the MS4 Plan and any documents prepared under the Plan.

**Necessary Documents:** An updated MS4 Program Plan.

**Measurable Goals:** Annual Report for this MS4 Program Plan must be completed and submitted to DCR in compliance with the schedule included in the reissued General Permit.

**Items Needed for the Annual Report:** Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) as required by the reissued General Permit.

**(1) Public Education and Outreach on Storm Water Impacts**

Fort Belvoir has incorporated information regarding storm water into several environmental educational programs or activities, and encourages public involvement with these programs in order to reduce pollutants in storm water, as follows.

### **BMP 1.1 – Support Accotink Bay Wildlife Refuge Environmental Education Center**

Fort Belvoir has educational materials at the education center; however, the education center was closed due to funding shortfalls.

**Schedule and Evaluation:** Fort Belvoir will continue to seek funding to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Support one activity per year on the effects of storm water discharges.

**Items to be Reported in the Annual Report:** A list of the educational materials, an outline of the support activity, and a list of participants.

**Modifications per Required Admin Update:** TBD.

### **BMP 1.2 – Present Storm Water and Watershed Information on the Belvoir Website**

Fort Belvoir continues to gather information for the installation website [www.belvoir.army.mil](http://www.belvoir.army.mil). The Environmental and Natural Resources Division has been trying to fund an environmental sub-website, but has not received the funds.

**Schedule and Evaluation:** New information is being processed and the website will be updated as funds are available.

**Responsible Party:** Environmental and Natural Resources Division and Public Affairs Office.

**Necessary Documents:** None.

**Measurable Goals:** Present information regarding storm water discharge to receiving waters and general watershed data on the Fort Belvoir website.

**Items to be Reported in the Annual Report:** A copy of the web posting information.

**Modifications per Required Admin Update:** TBD.

### **BMP 1.3 – Support the Fort Belvoir Storm Drain Stenciling Initiative**

A stenciling program in the family housing areas will be continued. Approximately 35% of the storm drain inlets on the installation were stenciled during the first permit cycle. Funding shortfalls have prevented the installation from completing all stenciling requirements, funding has been requested to complete the stenciling.

**Schedule and Evaluation:** Fort Belvoir will continue to seek funding to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Support a program for stenciling storm water drains or inlets with phrasing to identify the structure as a storm drain, identify the receiving waters and discourage introduction of pollutants. Stencil 100% of the storm water drains leading to receiving waters.

**Items to be Reported in the Annual Report:** Photographs of the stenciled inlets and maps of the completed areas.

**Modifications per Required Admin Update:** TBD.

### **BMP 1.4 – Maintain General Watershed Information on the Fort Belvoir Website**

Fort Belvoir will post updated storm water information on the installation website [www.belvoir.army.mil](http://www.belvoir.army.mil). Fort Belvoir continually updates watershed information in the installation Geographic Information System (GIS), that information is available to all GIS users and has been posted on the website as part of the Master Plan update.

**Schedule and Evaluation:** New information is being processed and will be placed on the website. Fort Belvoir will continue to update the GIS and implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division, Master Planning Office and Public Affairs Office.

**Necessary Documents:** None.

**Measurable Goals:** Update the watershed data to reflect changes or new information.

**Items to be Reported in the Annual Report:** Maps and/or narratives identifying the changes within the watershed.

**Modifications per Required Admin Update:** TBD.

## **(2) Public Involvement/Participation**

Fort Belvoir will notify the public of events, activities, or information regarding storm water management by publishing information in the "Belvoir Eagle" (Fort Belvoir's weekly newspaper), pamphlets, brochures, and website postings. In addition, Fort Belvoir will publish public notices in the Fairfax Journal and other periodicals, as appropriate, for compliance purposes.

### **BMP 2.1 – Support Volunteer Stream "Clean-up"**

Fort Belvoir will hold an annual stream clean-up in Accotink Bay. Residents are also encouraged to participate in the yearly Potomac River Clean-up the dates of the clean-up are posted in the Belvoir Eagle.

**Schedule and Evaluation:** Fort Belvoir's Environmental Office coordinates with local newspapers to announce clean-up opportunities on and adjacent to the installation and encourages residents and tenant organizations to participate in events on and outside of the installation.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Hold one volunteer stream clean up activity to police areas around streams to collect debris or trash, remove dead bracken, and note any obvious signs of deterioration or pollution. Involve tenant agencies, schools, community partners, and other members of the public.

**Items to be Reported in the Annual Report:** Photographs and sign-up list of participants.

**Modifications per Required Admin Update:** TBD.

### **BMP 2.2 – Support Family Housing Occupant Orientation**

Fort Belvoir has distributed and displayed posters about dumping waste oil and chemicals in storm water systems to the housing and tenant facilities. Posters are displayed in public areas around the installation to remind residents that dumping chemicals or oil can degrade habitat in the Chesapeake Bay. The installation has an Emergency Management System (EMS) that manages and tracks environmental performance. The EMS is explained every month at the

“New Comer” briefings and an email address is provided that allows residents or employees to report environmental problems or violations.

**Schedule and Evaluation:** Fort Belvoir will ensure that new family housing occupants receive adequate information on installation policies related to car washing/oil changing/maintenance, lawn care and recycling.

**Responsible Party:** Environmental Management System Program Manager.

**Necessary Documents:** Environmental Management Policy and brochure.

**Measurable Goals:** Develop and distribute materials to 100% of new tenants.

**Items to be Reported in the Annual Report:** A copy of the Environmental Management Policy and brochure.

**Modifications per Required Admin Update:** TBD.

### **BMP 2.3 – Implement Fort Belvoir Pollution Complaint “Hot Line”**

The Environmental Management System is explained every month at the “New Comer” briefings and an email address is provided that allows residents or employees to report environmental problems or violations.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental Management System Program Manager.

**Necessary Documents:** Environmental Management Policy and brochure.

**Measurable Goals:** Establish a phone listing accessible to persons living or working on Fort Belvoir in order for them to notify Fort Belvoir personnel of concerns, questions, or perceived environmental issues. Provide the “Hot Line” number(s) on the Fort Belvoir website and/or within the Belvoir Eagle.

**Items to be Reported in the Annual Report:** A copy of the web posting or newspaper articles and a list of reported concerns and follow-up responses.

**Modifications per Required Admin Update:** TBD.

### **(3) Illicit Discharge Detection and Elimination**

Fort Belvoir will develop a program for the detection and eventual elimination of illicit discharges into the Fort Belvoir storm water system. Fort Belvoir continues development of Geographic Information System (GIS) datalayers that

include: inventories of the locations of storm water inlets, conveyances, and outfalls; installation soil types and topography; utility line locations; potential pollutant sources and spill locations; watershed and sub-watershed boundaries; and information regarding environmentally sensitive areas. Fort Belvoir will add a Total Maximum Daily Load (TMDL) datalayer to the GIS and will track changes to TMDL levels using the GIS. This GIS aids Fort Belvoir in determining the spatial location of storm water system components and enhances Fort Belvoir's ability to locate the receiving waters of a particular storm water system, in the event that a spill or an illicit discharge is identified.

### **BMP 3.1 – Develop, Implement, Update and Support of GIS Datalayers**

Operations at Fort Belvoir that involve the treatment of groundwater or waste water with eventual discharge to surface water have appropriate registrations for coverage under the general Virginia Pollution Discharge Elimination System (VPDES) permit that specify allowable discharge limits. These operations will continue to act in accordance with permit specifications and TMDL requirements. Fort Belvoir manages GIS data for all watersheds and sub-watersheds including storm sewer utilities and storm water best management practices.

**Schedule and Evaluation:** Fort Belvoir proposes to continue to implement this BMP without change during the next permit cycle.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Develop, implement, update and support GIS datalayers containing storm water systems, watershed/sub-watershed boundaries, utility data, TMDL impairments and other information pertinent to storm water management to reflect changes or new information.

**Items to be Reported in the Annual Report:** Photographs and sign-up list of participants if a clean-up is scheduled.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.2 – Develop Methods to Detect Illicit Discharges**

The installation has investigated methods and equipment to detect illicit discharges and has secured funding to purchase and install the equipment that meets the standards for existing VPDES permits.

**Schedule and Evaluation:** Fort Belvoir will install equipment that supports this BMP to the maximum extent practicable.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Develop standardized procedures and processes to perform evaluations of various facility or installation operations, such as smoke or dye tests of drains, in order to identify illicit discharges.

**Items to be Reported in the Annual Report:** A copy of the procedures and maps of test areas.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.3 – Inform Staff of Hazards from Illicit Discharges**

The installation has developed a series of posters and provides training to help staff identify and understand the effects of illicit discharges. The installation Environmental Management System (EMS) covers illicit discharges and is distributed to all tenants and residents. The EMS is updated annually and posted on the Belvoir website.

**Schedule and Evaluation:** Fort Belvoir will continue to seek funding to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Provide information to installation staff and operations on the identification and effects of illicit discharges via an article, newsletter, presentation, or by displaying information at appropriate facility locations, or on the Fort Belvoir website.

**Items to be Reported in the Annual Report:** A copy of the EMS Policy.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.4 – Maintain Compliance with Existing VPDES Permit**

Fort Belvoir environmental compliance staff manages the VPDES permit for Davison Army Airfield and ensures compliance with all elements of the permit including visual inspection of the facility for illicit discharges. An investigation of the installation for sites requiring individual VPDES discharge permits has been programmed and funded for 2009.

**Schedule and Evaluation:** Fort Belvoir will continue to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Operate VPDES-registered systems in accordance with system design parameters and the registration statement, prevent and/or mitigate significant permit deviations.

**Items to be Reported in the Annual Report:** Copies of the VPDES registration statement and inspection reports.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.5 – Evaluate Storm Drain Outfalls**

Fort Belvoir ENRD staff periodically checks storm drain outfalls for nuisance species. When nuisance species are identified they are programmed for removal and an upstream investigation is performed to identify potential non-point sources.

**Schedule and Evaluation:** Fort Belvoir will continue to seek funding to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Perform inspections of 5% of identified outfalls for nuisance species or other indicators that would indicate illicit discharge into the storm drain system.

**Items to be Reported in the Annual Report:** Photographs of nuisance species and maps of inspection sites.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.6 – Perform Illicit Discharge Detection and Mitigation Procedures**

The installation has investigated methods and equipment to detect illicit discharges and has secured funding to purchase and install the equipment that meets the standards for existing VPDES permits.

**Schedule and Evaluation:** Fort Belvoir will continue to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Perform previously developed illicit discharge detection procedures at five installation facilities with the potential for illicit discharge, develop recommendations for potential mitigation actions.

**Items to be Reported in the Annual Report:** Copies of the recommended mitigation actions.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.7 – Develop a Plan for Operations that may Affect Storm Water**

Fort Belvoir is working on plans for managing storm water discharges from water line flushing operations and golf course irrigation. The plans are evaluating flushing loops and discharge points to assess downstream impacts and re-route flushing operations through storm water management facilities where practicable. Golf course irrigation is being reviewed to optimize uptake and minimize runoff.

**Schedule and Evaluation:** Fort Belvoir will continue to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Develop an assessment plan to identify and evaluate other routine operations such as waterline flushing, golf course irrigation, basement drains, and condensation drains which may have an impact on storm water quality.

**Items to be Reported in the Annual Report:** Maps of the flushing loops and copies of the irrigation plan.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.8 – Perform Routine Operation Assessments and Develop BMPs**

Fort Belvoir is working with the Environmental Protection Agency to identify activities with non-storm water discharges that may impact storm water quality.

Activities identified will be evaluated to determine if an individual VPDES permit is required. BMPs will be installed as needed to curtail future discharges.

**Schedule and Evaluation:** Fort Belvoir will continue to seek funding to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Implement the assessment plan to identify potential impacts to storm water quality from various routine operations. Develop BMPs or engineering controls to address identified non-storm water discharges. Incorporate engineering controls or implement BMPs to address identified non-storm water discharges that impact storm water quality. Perform inspections and necessary maintenance on engineering controls or BMPs to ensure functionality; implement by the end of the fifth year.

**Items to be Reported in the Annual Report:** Maps of identified locations, inspection reports, and a list of recommended BMPs.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.9 – Evaluate Potential Combined Sewer Overflow Connections**

Fort Belvoir has a maintenance contractor that responds to plumbing calls from residents and tenants, if those calls identify a sewer overflow or cross connection the problem is repaired (if possible) and the GIS database is updated.

**Schedule and Evaluation:** Fort Belvoir will continue to seek funding to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Conduct and/or evaluate studies of potential combined sewer overflow connections; develop recommendations and or mitigation actions.

**Items to be Reported in the Annual Report:** Maps and maintenance logs identifying overflow locations.

**Modifications per Required Admin Update:** TBD.

### **BMP 3.10 – Evaluate Storm Water Sampling**

Fort Belvoir has identified potential sampling locations and has requested funding for sampling and lab testing. Funding shortfalls restricted sampling during the first permit cycle.

**Schedule and Evaluation:** Fort Belvoir will continue to seek funding to support this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Evaluate the storm water system for the potential development of a sampling strategy and, if appropriate, develop a detailed sampling plan and perform sampling in accordance with plan (as needed).

**Items to be Reported in the Annual Report:** Maps of sampling locations and sampling test results.

**Modifications per Required Admin Update:** TBD.

### **(4) Construction Site Storm Water Runoff Control**

Fort Belvoir has a protocol for a technical review of construction projects. The protocol is required for projects that disturb greater than or equal to 2500 square feet of land surface. Construction project plans and design documents are evaluated against the Virginia Erosion and Sediment Control Handbook (E&S), the Virginia Storm Water Management Handbook (VSWH), and the Fairfax County Public Facilities Manual (FCPFM). Deficient or non-compliant plans and documents are returned to the designers for modification and resubmission prior to initiation of site work.

### **BMP 4.1 – Establish a Construction Project Review Procedure**

Fort Belvoir Environmental and Natural Resources Division (ENRD) staff issue a Land Disturbance Letter to construction applicants only after plans have been approved by the Director of Public Works (DPW). DPW requires all construction projects to submit an excavation permit, ENRD staff review all excavation permits and request approved, stamped construction drawings for all projects that disturb more than 2500 square feet.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resource Division.

**Necessary Documents:** Virginia Storm Water Management Program General Permit for Storm Water Discharges; Virginia Erosion and Sediment Control Handbook; Virginia Storm Water Manual and Fairfax County Public Facilities Manual.

**Measurable Goals:** Establish a procedure to review construction projects to evaluate the project's potential to impact water quality, and the project's compliance with MS4 and Storm Water Management Plan. Procedure will include: requiring signature of the design engineer attesting that the construction plans and design documents were prepared in accordance with the MS4 Permit and incorporates the minimum standards of the E&S, VSWH, and FCPFM; copies of design analyses, design plans, and erosion control plans will be routed to appropriate, experienced staff at Fort Belvoir for review; each iteration in the design process must maintain the minimum standards of the E&S, VSWH and FCPFM and is subject to additional review; and deficient or non-compliant documents will be returned to designers for modification and resubmission. Review 100% of construction project for compliance with the MS4 permit conditions.

**Items to be Reported in the Annual Report:** Spreadsheet of all permits issued and copies of inspection results.

**Modifications per Required Admin Update:** TBD.

#### **BMP 4.2 – Communicate the Requirements of the Storm Water Program**

ENRD personnel have a checklist that details requirements for storm water and erosion and sediment control measures and provides the checklist and a copy of the MS4 permit to all design engineers prior to the 35% design submittal. ENRD personnel review all construction project plans that are submitted to the DPW. The plans are evaluated for compliance with the MS4 permit and state and local regulations.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** A synopsis of the August 2003 MS4 Permit requirements.

**Measurable Goals:** Distribute MS4 Permit requirements to designers during initial planning phases of construction projects. All construction contract packages (including designs and specifications) shall incorporate a requirement to conform to the conditions of the MS4 Permit and Program Plan.

**Items to be Reported in the Annual Report:** A distribution log tracking recipients of MS4 permit requirements.

**Modifications per Required Admin Update:** TBD.

#### **BMP 4.3 – Develop a Tracking System**

All construction packages are required to reference the MS-4 Permit on the plans and in the specifications. References are checked before plans are approved and signed by the DPW. The DPW uses the Excavation Permit to track all major and minor construction projects on the installation. Each project is assigned a tracking number and the project description and acreage are recorded in the database.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division and Construction Management Office.

**Necessary Documents:** Excavation Permit.

**Measurable Goals:** Establish a tracking system to ensure review comments are adequately addressed; include number and acreage of disturbed land. Develop in conjunction with NEPA and EMS regulation and policies.

**Items to be Reported in the Annual Report:** A copy of the tracking spreadsheet.

**Modifications per Required Admin Update:** TBD.

#### **BMP 4.4 – Obtain Registration Under VSMP for Construction Projects**

All construction projects are required to obtain a project-specific Virginia Storm Water Management Program (VSMP) Permit (the replacement for the VPDES Permit) prior to construction. A copy of the registration statement, payment verification and mailing receipt is required to be submitted to the DPW prior to DPW issuing a Land Disturbance Letter and Excavation Permit.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division and Construction Management Office.

**Necessary Documents:** None.

**Measurable Goals:** Construction projects that disturb one or more acres of land must obtain permit registration under the general VSMP Permit for construction projects and must adhere to the requirements of the permit. Incorporate a procedure under the utility clearance permit process to determine construction VSMP applicability and verify existence of required erosion control plans prior to utility clearance permit approval.

**Items to be Reported in the Annual Report:** A list of all the registration statements.

**Modifications per Required Admin Update:** TBD.

#### **BMP 4.5 – Initiate Periodic Site Inspections**

Fort Belvoir personnel are certified inspectors and visit the sites once every two weeks. Large construction projects may be supported by contract personnel that submit reports to ENRD and the project construction supervisor.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Establish periodic inspection procedures to determine adherence to the approved design plan and the construction-VPDES permit (as applicable) and to evaluate performance of the BMPs and/or engineering controls. Require site inspectors to be Virginia Certified Storm Water Inspectors. Any deficiencies identified during inspection shall be rectified immediately. In the event that the same deficiency is noted during re-inspections an immediate report shall be filed with the Virginia Department of Environmental Quality and site operations may be required to cease until the deficiency is corrected. Perform site inspections of 100% of construction projects.

**Items to be Reported in the Annual Report:** Copies of inspection reports.

**Modifications per Required Admin Update:** TBD.

#### **BMP 4.6 – Evaluate Emerging Technologies**

Fort Belvoir continues to evaluate new technology for both erosion and sediment control and storm water management. The installation has tried new curb inlet technologies and found that they work in upslope areas, but detain too

much water for inlets at the lowest point of the road. The installation is a proponent for Low Impact Development (LID), has hosted a conference and advocates for including LID technology in all new developments.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Review or evaluate one new product or engineering control designed to reduce soil erosion, consider possibility of use and potential effectiveness.

**Items to be Reported in the Annual Report:** Photographs of LID projects and a list of new technologies evaluated and/or implemented.

**Modifications per Required Admin Update:** TBD.

#### **(5) Post-construction Storm Water Management in New Development**

The installation tracks all post-construction storm water management Best Management Practices (BMP) using the GIS. Periodic inspections are conducted and corrections are programmed. Funding sources for some corrective actions have been curtailed for the past few years so the installation has not been able to meet the goal of repairing 10% of all problems each year.

#### **BMP 5.1 – Establish a Construction Project Review Procedure**

Fort Belvoir Environmental and Natural Resources Division (ENRD) staff issue a Land Disturbance Letter to construction applicants only after plans have been approved by the Director of Public Works (DPW). DPW requires all construction projects to submit an excavation permit, ENRD staff review all excavation permits and request approved, stamped construction drawings for all projects that disturb more than 2500 square feet. ENRD staff conducts post-construction inspections to evaluate the adequacy of new stormwater BMPs.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** All construction contract packages (including designs and specifications) shall incorporate a requirement to conform to the conditions of this MS4 Permit. Establish a procedure to review projects to evaluate proposed structural and non-structural BMPs and project compliance with MS4 and Storm Water Management Plan. Procedure will include: requiring signature of the design engineer attesting that the project was prepared in accordance with the MS4 Permit and incorporates the minimum standards of the E&S, VSWH and FCPFM; copies of design analyses, design plans, and information regarding storm water control structures will be routed to appropriate, experienced staff at Fort Belvoir for review; each iteration of the design process must maintain the minimum standards of the E&S, VSWH, and FCPFM and is subject to additional review; and deficient designs or non-compliant project documents will be returned to designers for modification and resubmission.

**Items to be Reported in the Annual Report:** Spreadsheet of all permits issued and copies of inspection results.

**Modifications per Required Admin Update:** TBD.

#### **BMP 5.2 – Develop a Tracking System**

All construction projects are required to comply with the MS4 Permit for permanent stormwater discharges. The DPW uses the installation GIS to track all permanent stormwater management BMPs on the installation. Each BMP is assigned a unique identification number and the project description and drainage area are recorded in the database.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Establish a tracking system to include information regarding the type of BMP, the location, the receiving waters, the number of acres treated by the BMP and inspection and maintenance information.

**Items to be Reported in the Annual Report:** Maps of new storm water management facilities.

**Modifications per Required Admin Update:** TBD.

### **BMP 5.3 – Initiate Periodic Site Inspections**

Fort Belvoir personnel are certified inspectors and visit the sites once every two weeks. Large construction projects may be supported by contract personnel that submit reports to ENRD and the project construction supervisor.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Establish periodic inspection procedures to determine adherence to the approved design plans and to observe status of BMP. Establish periodic inspection procedures to determine adherence to the approved design plans and to evaluate performance of the BMPs and/or engineering controls. Require site inspectors to be Virginia Certified Storm Water Inspectors. Perform site inspections of 100% of active construction projects and 10% of post-construction projects (per year).

**Items to be Reported in the Annual Report:** Copies of inspection results.

**Modifications per Required Admin Update:** TBD.

### **BMP 5.4 – Present Sustainable Development Considerations/New Technologies**

Fort Belvoir continues to evaluate new technology for both erosion and sediment control and storm water management. The installation has reviewed new curb inlet technologies for storm water quality treatment and is continuing to monitor existing water quality inlets. The installation is a proponent for Low Impact Development (LID), has hosted a conference and advocates for including LID technology in all new developments.

**Schedule and Evaluation:** Fort Belvoir proposes to continue to implement this BMP without change during the next permit cycle.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Hold one technical workshop for designers, inspectors, project managers, etc., on the implementation of BMPs; technological advances in control structure design, installation and operation; and designing for low impact and sustainable development.

**Items to be Reported in the Annual Report:** Photographs and sign-up list of participants if a workshop is scheduled.

**Modifications per Required Admin Update:** TBD.

### **BMP 5.5 – Audits of Existing Conditions**

Fort Belvoir ENRD staff inspects existing conditions of stream channels annually. Changes are noted and the GIS database is updated.

**Schedule and Evaluation:** Fort Belvoir proposes to continue to implement this BMP without change during the next permit cycle.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Perform an audit of the existing conditions of stream channels and banks, outfalls, etc., to include: a topographic survey to quantify channel cross-sections, installation of monitoring points and collection of photographic documentation to allow visual comparisons of existing and future conditions.

**Items to be Reported in the Annual Report:** Narratives of changes made to the GIS database.

**Modifications per Required Admin Update:** TBD.

### **BMP 5.6 – Corrections of Existing Watersheds**

Fort Belvoir has identified watershed problems and detailed them in a watershed study. The installation has coordinated with the Army Corps of Engineers Waterways Experiment Station for prescriptive fixes to common problems. Funding shortfalls have limited repairs, but requests will be made each year of the permit cycle.

**Schedule and Evaluation:** Fort Belvoir proposes to continue to implement this BMP without change during the next permit cycle.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Systematically correct watershed damages caused by existing conditions, poor design of control structures, or inadequate maintenance

of control structures. Program and implement an investment program where 10% of identified requirements are executed each year.

**Items to be Reported in the Annual Report:** Photographs and maps of corrected sites.

**Modifications per Required Admin Update:** TBD.

#### **(6) Pollution Prevention/Good Housekeeping for Municipal Operations**

Fort Belvoir will implement and/or support operations and maintenance programs that have the goal of reducing non-point source pollution prevention.

#### **BMP 6.1 – Develop Installation Operations and Maintenance Training Materials**

Fort Belvoir will provide training for spill response and pollution reduction as funding allows. Funding for annual spill response and pollution reduction training has been requested but not received. Total Maximum Daily Load (TMDL) information will be included in all future training activities.

**Schedule and Evaluation:** Fort Belvoir proposes to continue to implement this BMP without change during the next permit cycle.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** Training Documents.

**Measurable Goals:** Develop a training program for installation personnel and partners regarding pollution run-off reduction as it applies to various installation operations such as building and road maintenance, storm system maintenance, TMDL levels, landscaping activities, etc.

**Items to be Reported in the Annual Report:** Copies of the training materials and sign-up list of participants of training classes.

**Modifications per Required Admin Update:** TBD.

#### **BMP 6.2 – Support Recycling and HAZMAT Programs**

Fort Belvoir has a recycling program and a recycling facility that recycles 1200 tons of glass, metal, newspaper and plastic each year. The installation Fire and Safety Office sponsors HAZMAT training for appropriate personnel.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division; Recycling Center; Fire and Safety Office.

**Necessary Documents:** None.

**Measurable Goals:** Support of these programs facilitates appropriate waste management. Accomplish by providing relevant information to the public through monthly periodicals or Fort Belvoir website.

**Items to be Reported in the Annual Report:** Copies of published materials and web postings.

**Modifications per Required Admin Update:** TBD.

### **BMP 6.3 – Support Street Sweeping Activities**

The Environmental and Natural Resources Division included street sweeping and storm water facility maintenance in the maintenance contract for the installation maintenance contractor. Funding shortfalls for the contract have limited the amount of street sweeping and storm water facility management maintenance over the past three years.

**Schedule and Evaluation:** Fort Belvoir proposes to continue to implement this BMP without change during the next permit cycle.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Develop street sweeping operations and maintenance standards to evaluate the effectiveness of street sweeping activities and inspect 10% of the total street sweeping area for visible pollutants.

**Items to be Reported in the Annual Report:** Activity log and maps that depict the cleaning routes/areas.

**Modifications per Required Admin Update:** TBD.

### **BMP 6.4 – Implement Periodic Inspections and Clean Out of Catch Basins**

The Fort Belvoir maintenance contract includes requirements for basin maintenance. Maintenance areas are identified at the start of each contract year and maintenance is performed as funds permit.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Develop catch basin operations and maintenance clean out standards and perform inspections to evaluate the effectiveness of maintenance activities and evaluate 25% of the catch basins for clean out effectiveness.

**Items to be Reported in the Annual Report:** A copy of the clean out standards and a map depicting the inspection locations.

**Modifications per Required Admin Update:** TBD.

**BMP 6.5 – Ensure Functionality of Existing Storm Water Management Structures**

Fort Belvoir ENRD staff identified storm water structures requiring maintenance and continues to work on an operations and maintenance plan for all the deficient structures on the installation.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Develop an operations and maintenance plan to ensure functionality of existing storm water management ponds, infiltration swales and other storm water engineering structures by identifying structures, and developing required maintenance tasks and associated activity completion schedules and inspect 20% of storm water management structures for general condition and functionality.

**Items to be Reported in the Annual Report:** A copy of the operations and maintenance plan and a map depicting the inspection locations.

**Modifications per Required Admin Update:** TBD.

**BMP 6.6 – Maintain Spill Response Vehicle/Trailer**

Fort Belvoir has a Spill Response Plan and maintains a spill response trailer at Davison Army Airfield and at the main Fire Station.

**Schedule and Evaluation:** Fort Belvoir will continue to implement this BMP without change.

**Responsible Party:** Environmental and Natural Resources Division; Fire and Safety Office.

**Necessary Documents:** None.

**Measurable Goals:** Maintain a minimum of one spill response trailer equipped with appropriate equipment and absorbents; ensure appropriate training of spill response personnel.

**Items to be Reported in the Annual Report:** Copies of the training materials and a manifest of materials kept in the trailer.

**Modifications per Required Admin Update:** TBD.

#### **BMP 6.7 – Support Stream Restoration**

Fort Belvoir has committed to repair 2.5 miles of stream as mitigation for Base Realignment and Closure (BRAC) projects starting in 2009.

**Schedule and Evaluation:** Fort Belvoir is working with the Army Corps of Engineers to identify streams suitable for restoration and has scheduled a stream assessment for possible repair sites for January 2009.

**Responsible Party:** Environmental and Natural Resources Division.

**Necessary Documents:** None.

**Measurable Goals:** Support one stream restoration project, either on the installation or in partnership with the surrounding community for shared receiving water; advertise activity on the website or within the Belvoir Eagle to encourage public participation.

**Items to be Reported in the Annual Report:** Photographs of the project and maps of stream assessments and recommendations.

**Modifications per Required Admin Update:** TBD.

#### **BMP 6.8 – Support “Self Help” Programs**

Fort Belvoir will post storm water information about “Self Help” programs on the installation website [www.belvoir.army.mil](http://www.belvoir.army.mil) as funding permits.

**Schedule and Evaluation:** New information will be placed on the website as it develops.

**Responsible Party:** Environmental and Natural Resources Division and Public Affairs Office.

**Necessary Documents:** Storm water and Chesapeake Bay posters and brochures.

**Measurable Goals:** Fort Belvoir provides access to facilities at which tenants may perform crafts or auto repair or accept chemicals and equipment for lawn maintenance. Prior to participating within such programs, individuals must understand proper use of the facility and provided materials. Insert information about these programs into storm water pamphlets and include information about "Self Help" programs on the Fort Belvoir website.

**Items to be Reported in the Annual Report:** Copies of the pamphlets and the web postings.

**Modifications per Required Admin Update:** TBD.