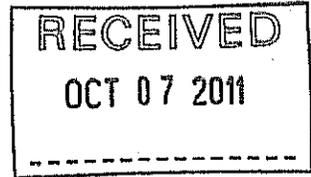




DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

SEP 30 2011



Directorate of Public Works

SUBJECT: Municipal Separate Storm Sewer System (MS4) Annual Report for
July 1, 2010 through June 30, 2011

Mr. J. Douglas Fritz
Program Manager
Department of Conservation and Recreation
203 Governor Street, Suite 206
Richmond, Virginia 23219

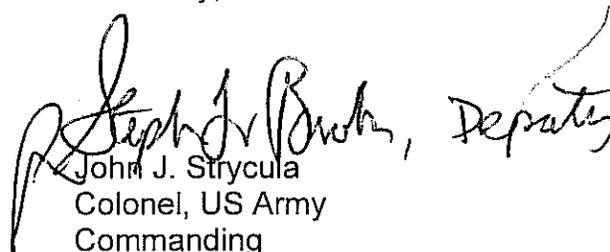
Dear Mr. Fritz:

Enclosed is the 2010 – 2011 Annual Report for the Fort Belvoir Municipal
Separate Storm Sewer (MS4) Permit, VAR040093.

"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."

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

Sincerely,


John J. Strycula
Colonel, US Army
Commanding

Enclosure

"LEADERS IN EXCELLENCE"

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

**Permit Number VAR040093
US Army, Fort Belvoir, Virginia**

Annual Report for Permit Year July 1, 2010 through June 30, 2011

Section I of this report addresses the status of minimum goals proposed for Fort Belvoir's MS4 permit for the 1 July 2010 – 30 June 2011 reporting period. Individual status summaries are provided following each permit Best Management Practice (BMP). Supplemental supporting information (e.g., public event notices and photographs) are provided as attachments to this report.

Section II provides a general summary of activities planned for the next reporting cycle.

Section III provides information on items (a) – (m) of the June 29, 2009 Department of Conservation and Recreation (DCR) letter to Fort Belvoir.

**SECTION I – ACTIVITIES ACCOMPLISHED/PURSUED DURING THE 1 JULY 2010 –
30 JUNE 2011 REPORTING CYCLE**

(1) Public Education and Outreach on Stormwater Impacts

BMP 1.1 Support Accotink Bay Wildlife Refuge Environmental Education Center.

- **Measurable Goal:** Support one activity per year on the effects of stormwater discharge.

On July 22, 2010 the article *"Everyone contributes to cleanliness of stormwater, Chesapeake Bay"* was published in the Belvoir Eagle as an outreach to the residents and tenants of Fort Belvoir. The article provides a discussion about how stormwater can pick up contaminants such as trash, fertilizer, pesticides, pet waste, grease, oil and gasoline and transport these pollutants into the streams found on Fort Belvoir. The article discusses how these pollutants make their way into the Accotink Creek, Accotink Bay, Dogue Creek, Gunston Cove, Potomac River and ultimately into the Chesapeake Bay. The article provides URL's for websites created by the United States Environmental Protection Agency (EPA) and The Weather Channel where readers can go to **further understand HOW what they do on Fort Belvoir will affect the health of the Chesapeake Bay.**

On September 16, 2010 the article *"DPW mapping, inspecting pipes"* was published in the Belvoir Eagle as an outreach and educational information piece to the residents and tenants of Fort Belvoir. This article provided information on the MS4 inventory and

mapping survey that was underway and why it was being completed (see BMP 5.2). The article provided a contact within Fort Belvoir Directorate of Public Works Environmental and Natural Resource Division (ENRD) for any community questions or concerns.

On April 22, 2011, as part of the Earth Day events at the Accotink Bay Wildlife Refuge Environmental Education Center, there was a specific display erected with handout and a video running on loop regarding stormwater discharges and pollutants. The display was based upon the handout and video from EPA entitled, "*After the Storm: A Citizens Guide to Understanding Stormwater.*" (EPA 833-B-03-002, January 2003) This display was staffed through the entire day's celebration and activities and over 50 handouts were distributed to residents of Fort Belvoir.

On April 28, 2011, a representative from ENRD attended Career Day at the Fort Belvoir Elementary School and discussed careers in stormwater management and what the children can do to keep their stormwater clean. Copies of stormwater educational materials were taken to the school, including EPA's handout entitled, "*After the Storm: A Citizens Guide to Understanding Stormwater.*" (EPA 833-B-03-002, January 2003)

During Earth Day activities, held on or around April 22, 2011 at the Accotink Bay Wildlife Refuge Environmental Education Center and other locations on post, numerous public education activities were conducted. The activities included the, guided canoe and kayak trips at Tompkins Basin, the Potomac River Watershed Cleanup, educational displays by several media areas (Dominion Virginia Power, American Water, Recycling Program, Tree identification, etc.), planting of a native vegetation wildflower/pollinator garden, children's activity to create environmentally friendly birdfeeders, Stormwater education display with video and handouts, general educational exhibits at the Accotink Bay Wildlife Refuge Education, a family campout with a night fishing clinic, and the Bat Presentation by Leslie Sturges Bat World NOVA. The dates, locations, and times for the events were listed in a poster developed by the DPW, the Directorate of Morale, Welfare and Recreation (MWR) and the US Army Child, Youth and School Services which was distributed via the Belvoir Eagle, MWR's Outdoor Recreation webpage and list serve and the Fort Belvoir Public Affairs Office's list serve.

Approximately 250 people including pre-school and school age children came to Tompkins Basin and the Accotink Bay Wildlife Refuge Environmental Education Center for the day's events and to witness the feeding of the Black Rat snakes, to observe and learn about non-native snakes, to look at some of the native fish species found in Accotink Bay, wildlife display mounts, preserved bug specimens, educational displays for the Accotink Bay Wildlife Refuge and the Jackson Miles Abbott Wetland Refuge, tree specimen displays and posters and presentation on geothermal and renewable energy sources.

Attachment A includes copies of articles and public outreach events. Attachment B includes copies of educational posters and pamphlets.

BMP 1.2 Present Stormwater and Watershed Information on the Belvoir Website.

- **Measurable Goal:** Present information regarding stormwater discharge to receiving waters and general watershed data on the Fort Belvoir website.

Fort Belvoir ENRD is in the process of putting together its Sharepoint Site which will include information about the Fort Belvoir MS4 Permit Program. The Sharepoint Site experienced a set-back this year when the site had to be re-built due to a programming flaw and security issues. The Fort Belvoir MS4 Program Sharepoint Site is under construction again, and efforts are underway to resolve the security issues.. We will provide an update on the status of the Sharepoint Site and material content in the 2011 – 2012 Annual Report.

BMP 1.3 Support the Fort Belvoir Storm Drain Stenciling Initiative.

- **Measurable Goal:** Support a program for stenciling stormwater 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 stormwater drains leading to the receiving waters.

Fort Belvoir ENRD continued to be unable to identify the resources to accomplish installation-wide storm drain stenciling. As stated in the March 14, 2011 letter to Virginia Department of Conservation and Recreation, Fort Belvoir requests replacing the stormdrain stenciling BMP with the following BMP:

BMP1.3 Present Information on Watershed Protection to School Groups

- **Measurable Goal:** Attend Fort Belvoir Elementary School's Annual Career Day. Set up displays and make presentations regarding protection of the Chesapeake Bay watershed.

Fort Belvoir ENRD staff attended the annual Fort Belvoir School Career Day on April 28, 2011. Staff made presentations addressing native vegetation and how it contributes to reduction of nutrient runoff and erosion, and to reduction of stormwater runoff and pollution to Chesapeake Bay tributaries.

BMP 1.4 Maintain General Watershed Information on the Fort Belvoir Website.

- **Measurable Goal:** Update the watershed data to reflect changes or new information

See BMP 1.2

(2) Public Involvement/Participation

BMP 2.1 Support Volunteer Stream "Clean up".

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

The Potomac River Watershed Cleanup Day was held on April 10, 2011. Approximately 50 volunteers from a number of organizations participated in the Cleanup which yielded 20 tires, a grill, 2 channel marker buoy's, a women's purse with ID's, and about 50 bags' worth of plastic, glass and metal. Volunteers came from the Society of American Military Engineers, Boy Scouts, Girl Scouts, Belvoir Waterfowl Hunters, Belvoir Bow Hunters, Fort Belvoir Community Residents and Fort Belvoir's Directorates of Public Works (DPW) and Morale, Welfare and Recreation (MWR) staff. A copy of the article "Potomac River Watershed Cleanup" printed in the April 14, 2011 Belvoir Eagle and information on the public outreach events is included in Attachment A.

BMP 2.2 Support Family Housing Occupant Orientation.

- **Measurable Goal:** Develop and distribute materials [about dumping waste oil and chemicals in stormwater systems to the housing and tenant facilities] to new tenants.

Fort Belvoir ENRD has distributed and displayed posters about dumping waste oil and chemicals in stormwater 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. (See Attachment B.)

BMP 2.3 Implement Fort Belvoir Pollution Complaint "Hot Line."

- **Measurable Goal:** 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.

A pollution complaint hot line does not exist and has been determined to not be practical. Fort Belvoir maintains several avenues whereby anyone can raise a question or complaint regarding environmental protection. These include the Fort Belvoir's website, and the Fort Belvoir Environmental EMailbox. Fort Belvoir's phone directory lists the installation's environmental office, safety office, fire stations and military police. As required by Army Regulation, Fort Belvoir maintains a standing Environmental Quality Coordination Committee comprised of representatives of each installation

activity and headed by the Garrison Commander which provides a forum for discussion of environmental issues.

Fort Belvoir ENRD in cooperation with the Fort Belvoir Fire Department has in place a flyer titled "In Case of a Spill". The flyer is circulated to the Installation Fire Stations, fuel sites, and motor pool sites. It directs the person or persons involved in a spill of fuel or oil to determine if the spill amounts to five gallons or more, covers an area of 10 square feet or more; or if the spill has entered into any waterway, storm drain system or sewer system, or if the spill involves any substance that may pose a threat to public health or welfare. If any one of these criteria is met the person(s) responsible for the spill are directed to first call and report the spill to the Fort Belvoir Fire Department and to second call and report the spill to the ENRD office; the phone numbers Fire Department and ENRD office are listed on the flyer. The flyer also provides information about what and what not to do after the spill and after the incident has been reported. (A copy of this flyer is included in Attachment B).

Fort Belvoir also has an "Interactive Customer Evaluation" (ICE) line where people can make comments by phone or by email.

(3) Illicit Discharge Detection and Elimination

BMP 3.1 Develop, Implement, Update, and Support of GIS Layers.

- **Measurable Goal:** Develop, implement, update, and support GIS data layers containing stormwater systems, watershed/sub-watershed boundaries, utility data, and other information pertinent to stormwater management to reflect changes or new information.

Fort Belvoir's GIS contains numerous layers. The layers include the locations of watersheds, subwatersheds, streams, water bodies, the storm drain system, sewer and water lines, fuel tanks, land use control areas, solid waste management areas, fuel tanks, hazardous materials, hazardous waste areas. Use of these layers allows ENRD to trace the potential paths of spills or contaminated areas in the event of a spill and to determine where the flow of the spill could be stopped before it enters the streams and water bodies on and adjacent to Fort Belvoir. As new information is obtained, these layers are updated.

See BMP 5.2 regarding the stormwater structure and facility inventory and GIS mapping that is underway.

BMP 3.2 Develop Methods to Detect Illicit Discharges.

- **Measurable Goal:** 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.

Fort Belvoir ENRD contracted with an engineering firm to complete the Industrial Stormwater and Wastewater Survey, Phase I to locate and characterize the industrial stormwater outfalls on the Installation. The Survey work has been completed and the final report/list was received in October 2010. As a result of the areas identified in the Phase I Survey, the contract consultants and ENRD staff initiated sampling and started preparing a permit application for an installation-wide Industrial Stormwater Virginia Pollutant Discharge Elimination System (VPDES) Permit. This sampling and permit application is underway for 24 potential industrial outfalls on the installation that include industrial SIC codes for air transportation, landfills, laboratories, marinas, hazardous waste storage, medical hospital, fueling stations, vehicle maintenance, dental facility, dining facility, etc.

The goal of Phase II is to complete an assessment of the industrial contributors and their potential discharges to stormwater, apply for the appropriate Industrial Stormwater VPDES Permit and establish an overall operations management plan to monitor activities and permitted outfalls for illicit discharges to ensure all industrial stormwater discharges are permitted, are in compliance with permits issued and that all applicable BMP's are implemented. An update regarding the status of Phase II will be provided in the 2011 – 2012 Annual Report.

BMP 3.3 Inform Installation Staff of Hazards Associated with Illicit Discharges.

- **Measurable Goal:** 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.

Fort Belvoir ENRD is the primary agency responsible for the administration of the "*Fort Belvoir Master Spill Plan*" (revised August 2004 prepared by Dewberry & Davis). The Master Spill Plan contains specific information regarding what substances, equipment and materials are governed by the Plan, the chain of command and protocols for how to report spills, what actions have to be taken after a spill is reported, the location of known problem areas and evacuation routes.

As part of the review of construction design plans applicants are required to submit an Environmental Protection Plan (EPP) to ENRD for review and approval. The EPP requires documentation on the status of required permits and/or approvals for the project which includes cultural resources, protecting the natural resources on and adjacent to the site, erosion and sediment control and stormwater management. The EPP also includes information on handling petroleum liquids, sanitary waste, non-hazardous solid waste and recycling, hazardous waste and construction generated waste.

As part of the permit conditions for the VPDES General Permit VAR051080 for Industrial Stormwater Discharges at Davison Army Airfield, the annual training on the

Stormwater Pollution Prevention Plan (SWPPP) was conducted on June 7 and 8, 2011. The training consisted of staff awareness of potential contamination from airfield operations to the stormwater system, BMPs, and illicit discharge elimination.

A copy of the Master Spill Plan, example Environmental Protection Plan and the above-cited VPDES permit is available upon request.

BMP 3.4 Maintain compliance with existing VPDES registrations.

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

Five VPDES General Permits have been issued for Fort Belvoir.

1. Davison Army Airfield, VAR051080. This permit is an Industrial Stormwater General Permit which has quarterly visual monitoring for the permitted outfalls. Analytic sampling is not required for this permit unless the airfield de-icing operations meets a threshold for usage.
2. Belvoir North Area, VAG830358. This Permit is for construction dewatering and consists of four outfalls. Monitoring requirements are in the compliance with Permit. Dewatering activities at outfalls 003 and 004 were terminated in July 2011. Dewatering activities were terminated on May 11, 2011, at outfalls 001 and 002.
3. Main Post – Building 305 VAG830285. This Permit is for discharges from a petroleum-contaminated site from a new remediation system (dual-phase extraction system) at building 305. Monitoring requirements are in compliance with the Permit.
4. Main Post – Building 1124 VAG830286. This Permit is for discharges from a petroleum-contaminated site from a new remediation system (dual-phase extraction system) at building 1124. Monitoring requirements are in compliance with the Permit.
5. Main Post – Building 3161 VAG830091. This Permit is for discharges from a petroleum-contaminated site from a new remediation system (dual-phase extraction system) at building 3161. Monitoring requirements are in compliance with the Permit.

BMP 3.5 Evaluate Storm Drain Outfalls.

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

See BMP 3.2

BMP 3.6 Perform Illicit Discharge Detection and Mitigation Procedures.

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

See BMP 3.2

BMP 3.7 Develop a Plan for Operations that may affect Storm Water.

- **Measurable Goal:** 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 stormwater quality.

See BMP 3.2

BMP 3.8 Perform Routine Operation Assessments and Develop BMPs.

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

See BMP 3.2

BMP 3.9 Evaluate Potential Combined Sewer Overflow Connections.

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

There are no known combined sewer and storm sewer lines; consequently this BMP does not apply to Fort Belvoir.

BMP 3.10 Evaluate Storm Water Sampling.

- **Measurable Goal:** Evaluate the stormwater 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).

See BMP 3.2

(4) Construction Site Stormwater Runoff Control

BMP 4.1 Establish a Construction Project Review Procedure.

- **Measurable Goal:** 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 Stormwater 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 Virginia Erosion and Sediment Control Handbook (VESCH), Virginia Stormwater Management Handbook (VSWH), and Fairfax County Public Facilities Manual (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 VESCH, 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 projects for compliance with the requirements of the MS4, E&S, VSWH, and FCPFM.

Fort Belvoir ENRD personnel that work in the MS4 Program are certified as Combined Administrators or are Licensed Professional Engineers in accordance with the requirements administered by the Virginia Department of Conservation and Recreation (DCR). In accordance with the Fort Belvoir MS4 Permit, ENRD MS4 Staff reviews construction plans for projects disturbing areas of 2,500 square feet and greater to determine if the design plans are in compliance with the Virginia Erosion and Sediment Control Handbook (VESCH), the Fairfax County Public Facilities Manual (PFM) and the Virginia Stormwater Management Handbook (VSMH). Plans that impact streams and/or wetlands are also reviewed by ENRD to ensure compliance with erosion and sediment control regulations (Attachment C).

Once it has been determined that the project meets the design requirements for stormwater management and erosion and sediment control, ENRD MS4 Staff directs the project proponent to submit the Registration Statement for the Virginia Stormwater Management Program (VSM) Permit and the Stormwater Pollution Prevention Plan (SWPPP) to the DCR along with the permit fee and they are asked to provide copies of these three documents to ENRD for our records. At this time the project proponent is also directed to submit three copies of the approved design plans. Following receipt of

the Registration Statement and proof of the paid fee ENRD MS4 Staff will direct the project proponent to submit an application for an Excavation permit to the Fort Belvoir DPW. With completion of the Excavation Permit review, ENRD MS4 Staff will prepare a Land Disturbance Letter for signature from the DPW Director, and will have the Director sign the approved plans. No work can begin on a project before the signed Land Disturbance Letter and approved plans have been provided to the project proponent.

Once construction begins on a project, Erosion and Sediment Control Inspections are conducted biweekly and within 48 hours of rainfall events greater than 0.5 inches. During the field inspection, any deficiencies found are discussed along with how the contractor will correct them and when the corrections have to be completed. Following the on-site field inspection, a written inspection report is prepared identifying the deficiencies found during the inspection and the date by which the deficiencies must be corrected. The inspection report is provided to the project engineer, the contractor and/or the Responsible Land Disturber identified for the project. (Attachment D contains a blank Erosion and Sediment Control Inspection Report Form.)

If the deficiencies are corrected by the following inspection, the correction is noted and the deficiency is deleted from the report. If the deficiencies are not corrected, a 2nd notice for the deficiencies will be discussed with the project engineer and the contractor, and a new date by which the deficiencies must be corrected will be listed in the report. If the contractor does not correct the violations after the second notice, a Notice to Comply letter is issued by the Fort Belvoir Public Works Director. The Notice to Comply Letter may include a Stop Work Order from the contracting officer that cannot be lifted until the deficiencies are corrected.

At the end of project, after all items identified on the final erosion and sediment control punch list have been satisfactorily addressed, the contractor will be directed to submit the VSMP Termination Notice to DCR. The contractor is asked to provide ENRD with a copy of the Termination Notice for our files.

The Erosion and Sediment Control Inspection Reports completed during the 2010 – 2011 reporting cycle are available upon request.

BMP 4.2 Communicate the Requirements of the Storm Water Program.

- **Measurable Goal:** 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.

Fort Belvoir ENRD provides guidance materials to the A/E Firm producing construction plans and documents that details requirements for the design and implementation of stormwater and erosion and sediment control measures. For all projects where initial planning is done locally, ENRD provides guidance to the project proponent regarding MS4 Permit compliance requirements. (A copy of this guidance is in Attachment C.)

Upon request, ENRD provides copies of the MS4 General Permit and Fort Belvoir's Registration Statement, as well as the URL address for Virginia Department of Conservation and Recreation (DCR) for direct access to the MS4 General Permit, the Virginia Stormwater Management Program (VSMP) General Permit and other documents that may be of interest.

MS4 Permit compliance requirements (as described in BMP 4.1) have been incorporated into the installation Environmental Management System (EMS) and are in the process of being incorporated into the Installation Design Guide (a component of the Installation Master Plan) and onto the Fort Belvoir Sharepoint Site for public posting.

The MS4 review process is identified in project design meetings to ensure project proponents understand the process they will be working under and what information is needed to ensure successful and timely completion of the construction design phase.

BMP 4.3 Develop a Tracking System.

- **Measurable Goal:** Establish a tracking system to ensure review comments are adequately addressed; include number and acreage of disturbed land. Develop in conjunction with National Environmental Policy Act (NEPA) and EMS regulation and policies.

Fort Belvoir ENRD maintains an Approved Plans List which contains all of the project plans under review by the ERND. The List is updated each month to ensure it remains current. The List also tracks the progress of projects as they move through the construction phase. This List is available upon request.

BMP 4.4 Obtain Registration under VSMP for Construction Projects.

- **Measurable Goal:** 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.

To ensure compliance with the MS4 Permit, Fort Belvoir requires all projects disturbing 2,500 square feet or more of land surface to obtain registration under the general Virginia Stormwater Management Program (VSMP) Permit through the Virginia Department of Conservation and Recreation (DCR). Fort Belvoir ENRD requires the contractors to provide a copy of the VSMP Registration Statement submitted to the DCR along with a copy of the check used to pay the fee before a Land Disturbance Letter can be signed for the project (Attachment C).

BMP 4.5 Initiate Periodic Site Inspections.

- **Measurable Goal:** Establish periodic inspection procedures to determine adherence to the approved design plan and the construction-VSMP Permit (as applicable) and to evaluate performance of the BMPs and/or engineering controls. Require site inspectors to be Virginia Certified Stormwater Inspectors. Any deficiencies identified during inspection shall be rectified immediately. In the event that the same deficiency is noted during reinspections an immediate report shall be filed with the Virginia Department of Conservation and Recreation and site operations shall cease until the deficiency is corrected. Perform site inspections of 100% of construction projects.

See BMP 4.1. A copy of the site inspection form is in Attachment D.

BMP 4.6 Evaluate Emerging Technologies.

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

Base Realignment construction of the new Fort Belvoir Community Hospital included the following stormwater management technologies which came on line during this reporting period:

1. **Sand Filters** - There are two sand filters have been constructed in the south west area of the project site. These sand filters were incorporated into the project to improve the water quality leaving the site.
2. **Porous Pavement** - Four sections of permeable pavers have been installed on the east side of the hospital. These locations cover almost an acre and treat 2.92 acres.
3. **Cisterns** - Two 80,000 gallon cistern system have been installed to capture rainwater from four swoosh roof systems. The cisterns are used for storm water detention and watering the Healing Garden plantings and are currently in use. These cisterns treat 97,820 square foot of roof drainage and also capture air conditioning condensate. In addition, 20 educational signs explaining how the system works have been installed inside the buildings.
4. **Green Roof** - There are five sections of green roof that have been installed. The green roof will treat 35,031 square feet of the main hospitals roof.
5. **Filterra Systems** - Eight Filterra systems have been constructed on the project to treat minor runoff along the road systems. Six of the eight systems have been activated.

6. Bioretention Facilities (basins) - There are three bioretention areas that will treat the majority of the project site. The bioretention facilities were originally established to handle extra sediment from site work but are now active Bioretention facilities.

The Warriors in Transition (WIT) complex, like the Fort Belvoir Community Hospital, is installing stormwater cisterns to supply irrigation systems. The Office of the Chief of Army Reserve (OCAR) facility is installing bio-swales in place of conventional parking lot islands as part of their overall stormwater management system. The swales will provide water quality treatment, reduce the size of the traditional detention ponds that were also used, as well as beautify the parking lot. These facilities came on line after this reporting period and will be reported on next year's annual report.

The United States Army Legal Services Agency (USALSA) facility is installing an underground detention system (UDS) to allow for stormwater infiltration on a facility site with very limited space. The UDS will provide for stormwater quantity reduction and stormwater quality treatment. This facility will come on line next year.

The Base Realignment Phase 1 and 2 Infrastructure projects expanded the road network for Gunston, Belvoir, Pohick, and 9th Street on Fort Belvoir. All of the roads were previously two lane roads without stormwater management structures. These roads, expanded to four lanes, will have stormwater management structures that capture and provide water quality treatment for the entire four lane road system and in some locations will also treat some adjacent previously untreated areas such as portions of McRee Barracks, the shopette at Gorgas Road, the Visitor Center at Tulley Gate, and portions of the Arts and Crafts Center. The stormwater management system will be a combination of above ground and underground structures that incorporate bio-retention and infiltration. With the new road system we will have taken approximately three miles of previously untreated asphalt surface and put it into a stormwater management system. These systems will come on line next year.

(5) Post-Construction Stormwater Management in New Development

BMP 5.1 Establish a Construction Project Review Procedure.

- **Measurable Goal:** All construction contract packages (including designs and specifications) shall incorporate a requirement to conform to the conditions of this MS4. Establish a procedure to review projects to evaluate proposed structural and non-structural BMPs and project compliance with MS4 and Stormwater 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 VESCH, VSWH, and FCPFM; copies of design analyses, design plans, and information regarding stormwater 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 VESCH, VSWH, and FCPFM and is subject to

additional review; and deficient designs or noncompliant project documents will be returned to designers for modification and resubmission.

See BMP 4.1

BMP 5.2 Develop a Tracking System.

- **Measurable Goal:** 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.

Fort Belvoir ENRD contracted with an engineering firm to conduct an installation-wide field survey to locate all existing stormwater management structures and facilities to determine if they are functioning as designed and remain in compliance with state and county stormwater management laws and regulations. The survey requires that the location of each structure and facility be confirmed with the installation GIS stormwater layer and that each structure and facility is characterized by size, type, material and condition. The survey will also identify maintenance requirements including repairs or retrofits.

The survey will result in an MS4 GIS layer and a spreadsheet listing all structures and facilities. Using this information ENRD MS4 Staff will work with DPW Operations and Maintenance Staff to obtain funding and schedules for maintenance and repair work. The list provided to Operations and Maintenance will be given in priority order.

For those structures and facilities located in the privatized residential areas, ENRD will provide the residential maintenance office with the same information and will work with them to get any necessary maintenance and repair accomplished.

Fort Belvoir will develop a plan for yearly inspection of the stormwater management system following completion of the survey. All structures and facilities that come on line after the initial map and list are created will be added to the spreadsheet and GIS layer.

This contract was awarded in summer 2010. Field survey work proceeded throughout this permit reporting year, and is scheduled to be completed in late calendar year 2011. A draft GIS datalayer and report for the portions of Fort Belvoir not undergoing Base Realignment construction was submitted in August 2011. A final GIS datalayer and report, to include the BRAC areas, is scheduled to be received in late calendar year 2011/early calendar year 2012.

BMP 5.3 Initiate Periodic Site Inspections.

- **Measurable Goal:** 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 Stormwater Inspectors. Perform site inspections of 100% of active construction projects and 10% of post-construction projects (per year).

See BMP 5.2

BMP 5.4 Present Sustainable Development Considerations/New Technologies.

- **Measurable Goal:** 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.

Funding shortfalls precluded Fort Belvoir from funding any workshops. Unlike years past, no opportunities were available to host workshops funded by others. Funding shortfalls are expected to continue next year, so Fort Belvoir will continue to look for opportunities to host workshops funded by others.

BMP 5.5 Audits of Existing Conditions.

- **Measurable Goal:** 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 co

Funding shortfalls precluded Fort Belvoir from contracting for stream channel inventory work.

BMP 5.6 Corrections of Existing Watersheds.

- **Measurable Goal:** 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.

Fort Belvoir performed a watershed correction at the Davison Army Airfield (DAAF) on a ditched stream channel and outfall structure that were inadequately maintained and experiencing erosion at the headwall and sedimentation in the stream (see Attachment E) The headwall at the culvert outfall that emerges from under the taxiway had completely failed, and the slope surrounding the headwall was actively eroding. The ditched stream channel was silted in, blocking flows from the culvert and drainage from the ditch system parallel to the runway. The sediment accretions were vegetated by broadleaf cattails and a variety of sedges and rushes. In addition, abandoned drainage pipes were exposed at the surface and interfered with the flows of the stream. The project consisted of removing sediment from approximately 200 linear feet of ditched

stream channel and taxiway ditch, installation of a new headwall, reshaping of the slopes around the newly constructed headwall and transitioning of the new slopes into the existing ditched stream bank. The project stabilized the eroding slopes and restored free flow of the stream and stormwater drainage from the taxiway ditch.

A stream restoration project was completed in similar fashion to the project described under BMB 6.7.

An investigation was completed by US Army Corps of Engineers, Baltimore District, Water Resources Branch to identify several existing stream channels for stability, and structural deficiencies and to propose concepts for remediation of the identified stream channel instabilities or structural deficiencies. The Water Resources Branch submitted a report for the Mason Run headwater area and tributaries and a report for a tributary system to Dogue Creek near Washington Road and the Community Center. These projects are awaiting funding to implement.

(6) Pollution Prevention/Good Housekeeping for Municipal Operations

BMP 6.1 Develop Installation Operations and Maintenance Training Materials.

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

See BMP 3.3

BMP 6.2 Support Recycling and HAZMAT Programs.

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

Fort Belvoir actively supports recycling and HAZMAT programs by providing information during newcomer "in-briefs" to new tenants or personnel. Fort Belvoir ENRD developed tracking program metrics for items such as volumes of recycled products or collected waste, and for reporting these metrics to the Installation Command and to other tenant groups during Environmental Quality Control Committee meetings. ENRD's programs ensure that facilities have recycling bins to encourage use and ensure compliance with requirements of the HAZMAT program.

Fort Belvoir maintains a household hazardous waste program with a designated drop-off location and a contract mechanism for proper disposal of the waste. Information about this program is communicated to the residents of Fort Belvoir through informational flyers located at the Fort Belvoir Community Center, recycling center,

newcomers' briefings, and annual installation training (mandatory for all installation employees). Additionally, Fort Belvoir educates personnel and encourages support of these programs during semi-annual hazardous waste handler refresher training provided through the Fort Belvoir ENRD Hazardous Waste Management Program.

Fort Belvoir ENRD Staff also set up an educational booth on recycling at the Earth Day celebration activities on April 22, 2011. Staff provided information, exhibits and answered questions from the attendees during the event.

BMP 6.3 Support Street Sweeping Activities.

- **Measurable Goal:** 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.

Street sweeping and dust control requirements are implemented during construction to control dust and to ensure that roads are kept clear of dirt and debris in accordance with Virginia Erosion and Sediment Control Handbook standards and specifications. Contractors use mechanical street sweepers, or workers with brooms and shovels, to ensure dirt and debris are not tracked onto roadways. Contractors use water trucks to suppress dust generated by construction activities.

The Fort Belvoir Operations and Maintenance contractor uses a mechanical street sweeper to keep parking lots clear of dirt and debris on an as-needed basis.

BMP 6.4 Implement Periodic Inspections and Clean out of Catch Basins.

- **Measurable Goal:** 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.

See BMP 5.2

BMP 6.5 Ensuring Functionality of Existing Storm Water Management Structures.

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

See BMP 5.2

BMP 6.6 Maintain Spill Response Vehicle/Trailer.

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

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

BMP 6.7 Support Stream Restoration.

- **Measurable Goal:** 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.

Fort Belvoir constructed a stream restoration project at a perennial stream in sub watershed number three that drains into Accotink Bay. The stream was incising along the stream reach between Gunston Road, where it emerged from a box culvert, flowed through a partially blocked culvert under Old Pohick Road, and into a culvert under Pohick Road. Water service lines were exposed from the stream bed at that location. The project entailed the lowering of three ductile iron water lines and the removal of an existing culvert under Old Pohick Road. A rock step or plunge pool was installed at the outfall at the upstream end of the stream restoration. Downstream along the stream restoration reach modified cross vanes, two-step cross vanes, and log J-hooks were installed and bank stabilization was done, along approximately 1,210 linear feet of perennial stream channel. Associated with the stream restoration is the restoration of the stream buffer that was impacted due to the stream restoration. The plantings include trees, shrubs and native seed-mixes for wetlands and upland areas.

Fort Belvoir also completed the design for a stream restoration project at a perennial stream that is severely incised at the upstream portion (at Gunston Road) and incised to varying degrees downstream along the reach to the culvert crossing under Meade Road. The culvert is debilitated and the upstream flows are often blocked by drift material. At the culvert outfall, the culvert is in disrepair and scour is present. The project design includes cross vanes, J-hooks and the replacement of the culvert under Meade Road with a new culvert and a drop structure. A planting plan was developed to restore the stream buffer. The plantings would include trees, shrubs and native seed-mix. This project would restore approximately 900 linear feet of perennial stream. Funding was not available to implement the project in this reporting year. Fort Belvoir will continue to pursue funding.

Plans for stream restoration projects can be provided upon request.

BMP 6.8 Support “Self Help” Programs.

- **Measurable Goal:** 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 stormwater pamphlets and include information about “Self help” programs on the Fort Belvoir website.

See BMP 1.2

ATTACHMENTS:

- Attachment A. Articles and Public Outreach Events
- Attachment B. Posters and Pamphlets
- Attachment C. MS4 Permit Compliance Guidance
- Attachment D. Erosion and Sediment Control Inspection Report Form
- Attachment E. Watershed Correction Project Write-up
- Attachment F. Stormwater Management Structures

SECTION II – ACTIVITIES PROPOSED FOR NEXT REPORTING CYCLE

Generally, Fort Belvoir plans to continue implementing stormwater management activities similar in type and scope as done in this reporting cycle. Emphasis will continue to be placed on accomplishing 100 % engineer design review and 100 % site inspections for all construction projects on post, and on implementing at least one stream restoration project. Fort Belvoir anticipates being able to continue to participate in local waterway clean up events, to host at least one watershed education event, and to maintain updates to the installation GIS watershed data layer. Fort Belvoir anticipates being able to continue compliance actions associated with the installation's VPDES industrial discharge permit, spill response and hazardous materials/waste management. Fort Belvoir anticipates completing the installation-wide inventory of existing stormwater management structures and facilities.

If additional staff and funding resources could be made available, the installation would be able to increase activities associated with education and outreach, and implementation of stream and watershed restoration projects.

SECTION III – INFORMATION REQUESTED IN DCR LETTER DATED JUNE 29, 2009

a. *Background Information:*

(1) *Name and permit number of the program submitting the annual report*
US Army, Fort Belvoir, Virginia
MS4 Permit, VAR040093

(2) *Annual report permit year*
1 July 2010 – 30 June 2011

(3) *Modifications to any operator's department's roles and responsibilities*
None

(4) *Number of new MS4 outfalls and associated acreage by HUC added during the permit year*

The new Community Hospital came on line during this reporting period with 4 new MS4 outfalls:

Outfall # 1	54.84 acres	Dogue Creek	HUC: PL27
Outfall # 2	15.58 acres	Accotink Creek	HUC: PL30
Outfall # 3	7.27 acres	Accotink Creek	HUC: PL30
Outfall # 4	9.57 acres	Accotink Creek	HUC: PL30

These new outfalls are highlighted on the table of Stormwater Management Structures in Attachment F.

(5) *Signed certification in accordance with 4 VAC 50-60-370*
Certification is contained in transmittal letter for this report.

b. *Status of compliance with permit conditions, an assessment of the appropriateness of the identified best management practices including an assessment of the appropriateness of the identified BMPs in addressing discharges into waters that are identified as impaired in the 2006 305(b)/303(d) Water Quality Assessment Integrated Report, and progress towards achieving the identified measurable goals for each of the minimum control measures.*

The status of the implementation of the MS4 Permit BMPs is addressed in Section I of this report.

Fort Belvoir's three waterways, Pohick Creek, Accotink Creek and Dogue Creek, are listed as impaired by fecal coliform and bacteria. The three waterways are in suburban Fairfax County, and none have agricultural land uses within their watersheds. One waterway, Pohick Creek, receives discharge for the Lower Potomac Pollution Control Plant, a sanitary sewer treatment facility not operated by Fort Belvoir. The Assessment

Report presently considers wildlife to be the contributor to coliform and bacteria conditions. EPA established a stormwater Total Maximum Daily Load (TMDL) to address benthic impairments in the Accotink Creek watershed on April 18, 2011. As of the date of this report, the Accotink Creek TMDL has not been incorporated into the state regulation. The TMDL for the Chesapeake Bay are still under development. Inclusion of the TMDL requirements into Fort Belvoir's stormwater management program will occur after the TMDLs are incorporated into state and county regulations.

c. *Results of information collected and analyzed, including monitoring data, if any during the reporting period.*

N/A. There has been no analytic sampling or monitoring during this period.

d. *A summary of the stormwater activities the operator plans to undertake during the next reporting cycle.*

Anticipated stormwater activities are summarized in Section II of this report.

e. *A change in any identified best management practices or measurable goals for any of the minimum control measures including steps to be taken to address any deficiencies.*

BMP 1.3, "Support the Fort Belvoir Storm Drain Stenciling Initiative" has been replaced with the following BMP

"Present Information on Watershed Protection to School Groups"

f. *Notice that the operator is relying on another government entity to satisfy some of the permit obligations (if applicable).*

N/A

g. *The approval status of any programs pursuant to Section II C of the General Permit (if appropriate), or the progress towards achieving full approval of these programs.*

N/A

h. *Information required pursuant to Section I B 9 of the General Permit.*

Information on TMDL is still being quantified.

i. *The number of illicit discharges identified and the narrative on how they were controlled or eliminated pursuant to Section II B 3 f of the General Permit.*

There was one discharge during the reporting period. On May 17, 2011 there was a spill of approximately 50 – 100 gallons of undetermined petroleum on Davison Army Airfield in the Accotink Creek watershed. The incident was controlled initially by the Fort Belvoir Fire Department following standard spill response procedures. Fort Belvoir ENRD staff followed up containment with sorbent pads and additional booms. Virginia Department of Environmental Quality (DEQ) and EPA came onsite May 18, 2011 to assess the containment. Fort Belvoir hired an outside contractor on May 20, 2011 to

remove and replace the sorbent materials. Two weeks later DEQ met with Fort Belvoir and stated that containment was accomplished. Fort Belvoir submitted report on the incident to DEQ on August 12, 2011.

j. *Regulated land-disturbing activities data tracked under Section II 4 c of the General Permit.*

Available upon request.

k. *All known permanent stormwater management facility data tracked under Section II B 5 b (6) of the General Permit submitted in a database format to be prescribed by the department.*

See Attachment F

l. *A list of any new or terminated 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.*

N/A

m. *Copies of any written comments received during a public comment period regarding the MS4 Program Plan or any modifications.*

N/A

ATTACHMENT A ARTICLES AND PUBLIC OUTREACH EVENTS

DPW mapping, inspecting pipes

By Melanie Fritsch
DPW Environmental and
Natural Resources Division

The Fort Belvoir Directorate of Public Works Environmental and Natural Resources Division is responsible for administering the Municipal Separate Storm Sewer System (MS4) Permit held by Fort Belvoir. Through this program, the DPW manages stormwater and erosion and sediment control during and after construction.

The MS4 Permit requires all stormwater pipes, structures and facilities for Belvoir be located, mapped and inspected to verify the materials they are made of and their condition to ensure these structures are functioning as they were designed. There are about 2,000 different stormwater structures located on the installation.

DPW has contracted with Pachali Simmons & Associates to conduct the inventory and mapping work, which is expected to continue over the next year. Inventory began Sept. 8 in River Village, and then expects to move to George Washington Village and then all other parts of the installation, including all other res-



Photo by Wilamena Harback

This is an example of what DPW-ENRD is looking for during its on-post, stormwater pipe inventory, which is expected to take a year.

Residential communities, commercial communities, and people who use Belvoir's services may see these representatives on the streets looking at the different structures. The contractors may also look around and behind homes to find pipes and will mark inventoried structures. The contractors and DPW staff will have identification with them if anyone becomes concerned. Questions about the stormwater pipe work can be directed to Melanie Fritsch, MS4 Program Manager, 703-806-0016.

The nationwide, 17th Annual National Public Lands Day is Sept. 25 and volunteers from Fort Belvoir are needed to help out with their little neck of the woods. The Environmental and Natural Resources

Division plans to clean up a trail, plant native vegetation and clean signs at Fairfax Ruins and Potomac View Trails. Volunteers are needed from 8 a.m. to 1 p.m. and can meet at the entrance to the Fairfax Ruins Trail. They are encouraged to dress for the weather wear sturdy shoes, bring gloves and water. Adults, children, organizations and community groups are en-

couraged to participate. Interested volunteers are asked to contact Wilamena Harback, 703-806-3788. The trail entrance is behind the Community Center Parking Lot on the left.

Got bugs?

DPW implements pest control self-help program
Submitted by Wilamena Harback
DPW-ENRD

The Directorate of Public Works Environmental and Natural Resources Division has implemented a self-help pest control program, authorized by Dold instruction.

The program's purpose is to train facility managers and coordinators in the safe use and application of pesticides, such as wasp and hornet killer ant buttes, lures and small cockroach bait stations; and mouse traps. These general use pesticides have been approved by the Armed Forces Pest Management Board and Army Environmental Command for use by the facility managers.

The Self Help Pest Control Program provides a means for organizations to provide pest control for small pest problems such as wasp nests, mouse or ants in an office, or cockroaches in a break room. Larger problems like ground-hogs, hornet nests, squirrels, termites and weeds are not currently included in the SH-PCP.

Organizations interested in participating in this program can contact Steve Walters or Robin Myers to identify primary and alternate facility managers to participate in SH-PCP training.

DPW will then provide a one-hour training class for the SH-PCP in Bldg. 1442. Upon completion of training, the individuals are authorized to use the SH-PCP Store in Bldg. 1496 on Sharron Lane Road.

The store is open Tuesdays and Thursdays from 1 to 2:30 p.m. Any questions regarding enrollment or this program should be directed to Steve Walters, Steve.Walters@us.army.mil, 703-806-0684; or Robin Myers, Robin.M.Myers@us.army.mil, 703-806-3780.

Volunteers needed for National Public Lands Day

The nationwide, 17th Annual National Public Lands Day is Sept. 25 and volunteers from Fort Belvoir are needed to help out with their little neck of the woods. The Environmental and Natural Resources

Division plans to clean up a trail, plant native vegetation and clean signs at Fairfax Ruins and Potomac View Trails. Volunteers are needed from 8 a.m. to 1 p.m. and can meet at the entrance to the Fairfax Ruins Trail. They are encouraged to dress for the weather wear sturdy shoes, bring gloves and water. Adults, children, organizations and community groups are en-



Fort Belvoir's Directorate of Public Works and Brewster Troop 1409 help to plant native species at the entrance to the Fairfax Run Trail.



Volunteers work to clear logs and clearing the Fairfax Run and Potomac View trails Saturday. The Natural Resources Department of Fort Belvoir's Directorate of Public Works coordinated the effort.



Mary Cunniff works on restoring the Fairfax Run's sign Saturday.



Meghan Jones and Melissa Gillard were just two of the more than 30 volunteers who volunteered their energy to help restore Fort Belvoir trails.



Mary Cunniff checks the signage at the Fairfax Run. Volunteers cleared, restored and explored during part of National Public Lands Day.



Jones and Gillard add logs to their wood chip pile during volunteer efforts Saturday along the Fairfax Run and Potomac View trail.

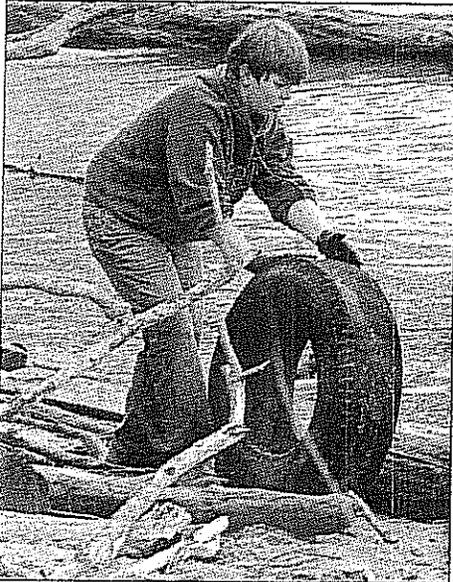
National Public Lands Day

Fort Belvoir's Directorate of Public Works Natural Resources Division had more than 40 volunteers on a clean-up and restoration of the Fairfax Run and Potomac View trails Saturday. Planting, clearing and raking were all part of the effort along the scenic trail. It was part of National Public Lands Day, the largest one-day volunteer event in the nation. Many volunteers were on the trail for the first time and appreciated the opportunity that could be found there.

Wilma Harbeck, DWP, was pleased with the turnout and results. "It's great to have these many volunteers complete all the projects that enhance these trails," Harbeck said. She noted the diverse groups that contributed included members of Brewster Troop 1409, retirees, civilian employees, corporate workers, families and a group of young "Machines" from Quantico. Most individuals worked more than four hours. "The stewardship that these people perform on this land is invaluable," Harbeck said.



Photos by Merry Main
Rufus Brinn, Dave Burpee, Dave Diefenderfer and Steve Scherer work the shoreline for submerged debris during the Potomac River Watershed Cleanup organized by the Alice Ferguson Foundation Saturday.



Matthew Ferham, 12, from Belvoir Boy Scout Troop 688 helps with the cleanup effort by removing a tire from Gunston Cove.



Brandon Alquist, 13, moves into the thicket along Gunston Cove to remove trash.

Potomac River Watershed Cleanup

Almost 60 volunteers participated in the 23rd Annual Potomac River Watershed Cleanup Saturday.

People came alone, in pairs and as families, to the event sponsored by the Alice Ferguson Foundation. They wore waders, boots and old clothes as they scoured the shorelines of Tompkins Basin and Dogue Creek for debris.

The rain-or-shine event is the

largest watershed cleanup in the area.

Through a cooperative effort of concerned citizens and environmental organizations, tributaries along the Potomac River and in Virginia, Maryland and Washington, D.C., get a needed cleanup.

Collectively, the group removed 20 tires, a grill and 60 bags of trash, which consisted of mostly plastic bottles.



Children learn importance of Earth Day

By Dianne Ryder
Defense Logistics Agency

The Defense Logistics Agency's chief of environment, safety and occupational health conveyed the importance of conservation to more than 60 children at the DLA McNamara Headquarters Complex Child Development Center April 19.

Christopher Warren said the event kicked off the DLA HQ Environmental, Safety and Occupational Health Office's effort to promote environmental awareness and education to commemorate Earth Day.

The event came about as a result of an environmental management steering committee meeting, Warren said.

"(Changes in attitude) are generational and ... often have to come from the young," he said. "If we get our kids to talk about environmental things,

usually the parents follow suit."

Warren said the committee members thought speaking to kindergarteners and pre-kindergarteners about Earth Day was a great idea. Once CDC staff members were on board, he knew they'd have a receptive audience.

"In the last couple of years, the kids have been drawing pictures for (our) big events and it's been very popular," Warren said. "So, we put two and two together."

Warren said he hopes that, after talking to the children about "the magic words" of Earth Day—reduce, reuse and recycle—they will have context for drawing those pictures, which were then displayed in the HQ cafeteria.

Warren used his speech to educate the children about recyclable items such as paper, glass, plastic and aluminum.

"We recycle things, and that means reuse it over and over again," he said.

The children responded to Warren's questions about how they could avoid wasting water and electricity.

"We always save electricity by turning off the television and the lights when we're not using them," he said.

Warren demonstrated a solar-powered lamp, energy-efficient light bulbs and passed around a pen made from recycled materials.

He left the classes with solar-powered clocks, recycling boxes and Earth Day posters to remind them that "there's only one Earth."

"Earth Day is the day we think about protecting the planet which we all live on, because the Earth is very, very important," Warren told the children.



Photo by Dianne Ryder
Children from the Defense Logistics Agency Headquarters Complex's Child Development Center kindergarten and pre-kindergarten classes gather around Christopher Warren, DLA chief of environment, safety and occupational health, as he searches his bag for environmental souvenirs.

Antiterrorism class trains officers to remain vigilant

By Chelsea Place
Pentagon staff writer

Civilians and service members gathered at Fort Belvoir's U.S. Army Inspector General School April 18-22, for the Unit Antiterrorism Officer Basic Training course.

The course expounds on a variety of topics, sometimes making for 10-hour days.

"Students are trained on the roles and responsibilities of a unit antiterrorism adviser," according to documents spelt out about the course.

"Training includes identifying antiterrorism program requirements; defining terrorism; determining the threat; AT planning and resource requirements; deployment considerations; case studies and conducting AT awareness training," the documents read.

Joint Force Headquarters-National Capital Region and the Military District of Washington Provost Marshal and Protection Directorate-Protection Division hosted the training.

Col. Steven Lynch, JFHQ-NCR and MDW provost marshal, gave the course's opening and closing remarks.

"I just have two quick points and one central theme. The first point is, as many of us know, the threat continues to be very real, both (internal) and external threats," he said. "The second point I'd like to make, under the theme of sharing information: one of the right critical tasks in an antiterrorism program is

seminate threat information."

Course teachers, Steve Kneeland, Troy Jensen and Edward Quinlan, made up the mobile training team brought in from the U.S. Army Military Police School at Fort Leonard Wood, Mo.

Students in the course weighed in on the course's importance and how it dealt with the subject of threats which happen in everyday life.

"This was a very informative course, taught by knowledgeable instructors with plenty of real-world experience to draw from, in order to communicate the gravity and relevance of the subject matter to the class," said Capt. Justin Bishop, Regimental Chemical, Biological, Radiological and Nuclear Officer, 3rd U.S. Infantry Regiment (The Old Guard).

Students in the class came from as far away as Germany and Korea to attend. The course was meant to teach that no matter where you are, the threat still exists, no matter how safe you feel.

"There will always be terrorist threats that

U.S. forces have to deal with stateside and abroad," Bishop said. "The unit antiterrorism officer has the important job of communicating these threats and the measures taken to limit their effectiveness."

From the civilian side of things, programs such as iWatch and Eagle Eyes have been added in to report suspicious behavior.

"All military installations are potentially vulnerable to terrorist threats, not just one specific federal service," Bishop said. "The standards and regulations outlined in the course are very relevant to all personnel who work with servicemembers."

The course ended with a test and award ceremony where Lynch gave out his commander's coin and a certificate to those who helped make the course possible. At the end of the ceremony, teachers reviewed the final exam with the students before dismissing them.

Even though the classroom instructions are over, the mindset to



Photo by Chelsea Place
Col. Steven Lynch, Joint Force Headquarters, National Capital Region and provost marshal Military District Washington gave the opening remarks for the Unit Antiterrorism Officer Basic Training course held at Fort Belvoir April 18 to 22 at the U.S. Army Inspector General School.

stay vigilant against terrorism remains.

The antiterrorism officers will keep their units up-to-date on an

in-person training session with the unit, follow-up antiterrorism updates can be finished online.

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AUSA Fairfax-Lee Chapter

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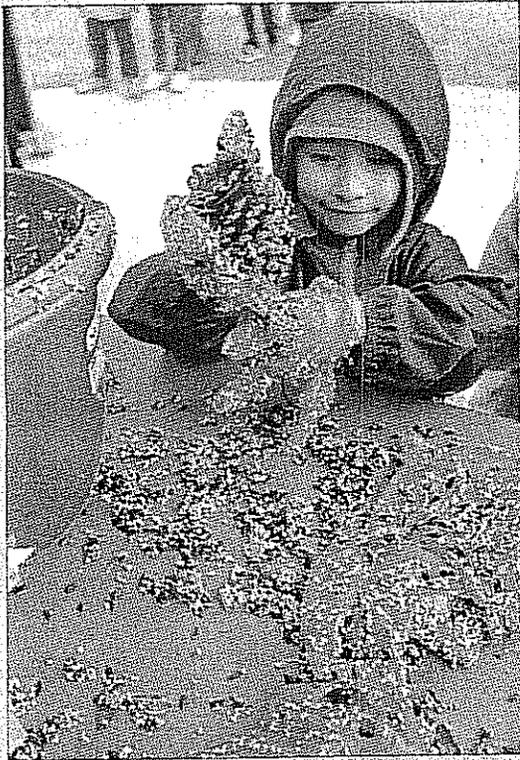
Wednesday, 27 April, 6-8 PM!

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8450 Beulah Street | Fort Belvoir, VA 22060
http://ausaforfaxlee.org/



Photos by Marry Main

Earth Day

Above: Justin Longacre, 5, covers a pinecone with birdseed as he creates a bird-feeder Friday during Earth Day festivities.
Top right: Marine Pvt. Justin Cain helps Shoyla Young, 5, with placement of the topsoil in the native wildflower garden near Outdoor Recreation Friday.
Bottom right: Baden Tull, 4, colors an Earth Day poster at the festivities Friday.

A large advertisement for Springfield Mall. The main text is 'GREAT VALUES from SPRINGFIELD MALL!' in a large, bold, sans-serif font. To the right of the text is a graphic of a shopping bag with a 'MONEY SAVING OFFERS' tag and a 'VALUE FASHION' logo. The background is a dark, textured surface.

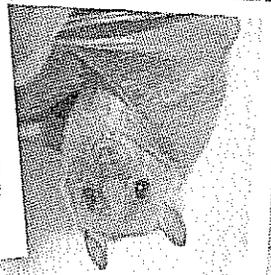
ATTACHMENT B POSTERS AND PAMPHLETS

Earth Day 2011

Love your Planet ~ Free, smart fun for the whole Family



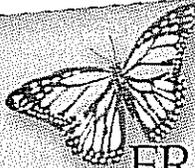
Help plant a Wildflower Butterfly Garden!



BATS! Presentation by Leslie Sturges, Bat World NOVA



Guided Canoe & Kayak Tours



FRIDAY, APRIL 22 TOMPKINS BASIN PARK

9 a.m. - 3 p.m.
Open House for Accotink Bay
Environmental Education Center

10 a.m. - 2 p.m.
Planting for Wildflower Butterfly Garden
Children's Activities
Educational Displays
Outdoor Recreation Activities

11 a.m. - 1 p.m.
Free Lunch!

3 - 6 p.m.
Guided Canoe & Kayak Tours

5 p.m. Friday - 2 p.m. Saturday
DFMWR Family Campout

7 - 8 p.m.
BATS! Presentation, Bldg 778

8 - 11 p.m.
Night Fishing Clinic

Made possible through the following partnership:

Fort Belvoir's Directorate of Family and Morale, Welfare & Recreation
Outdoor Recreation ~ Child, Youth, & School Services
Directorate of Public Works ~ Environmental & Natural Resources Division

Telephone: 703-805-1226 / Website: www.belvoirmwr.com



17th Annual National Public Lands Day (NPLD)

Fairfax Ruins and Potomac View Trail Work

September 25th, 2010

8:00am—1:00pm



Join the Environmental and Natural Resources Division
in trail cleanup, planting native vegetation and sign cleaning at the
Fairfax Ruins and Potomac View Trails.

Volunteers will meet at the
entrance to the Fairfax Ruins Trail.

Dress for the weather, wear sturdy shoes, bring gloves and bring a
water bottle to refill as needed.

Adults, children, organizations and community groups
are encouraged to participate

To volunteer, please call

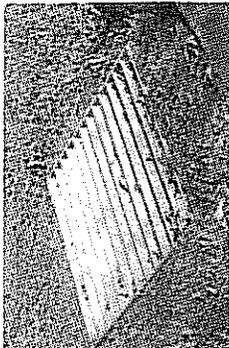
Wilamena Harback

(703) 806-3758

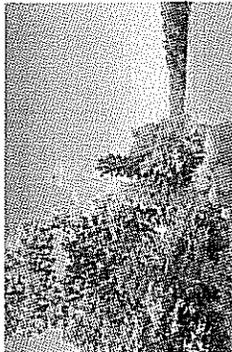


Directions to the site: From I-95, take the Fort Belvoir/Newington exit to the southern leg of the Fairfax County Parkway (Route 7100). Follow the parkway east approximately 3 miles until its end at Richmond Highway (Route 1). Turn left onto Route 1, North. Follow Route 1 to the first light and make a right into Tulley Gate. This is Pohick Road. A military ID or picture identification are required to enter the installation. Proceed through the check point on Pohick Road to second stop light and turn right onto Gunston Road. Continue on Gunston Road, turn left onto 23rd Street. Follow several blocks and turn right onto Forney Loop until the intersection with Fairfax Drive. The Trail Entrance is located behind the Community Center parking lot on the left.

DON'T DUMP HERE...



... IT ENDS UP HERE



What is storm water?

Storm water is the runoff that occurs with natural precipitation such as rain or snowmelt.

What is a storm water inlet?

A storm water inlet can be a curbside opening or a grate that drains storm water from streets, yards, and sidewalks.

What is the difference between a sewer and a storm drain?

A sewer system is a collection of underground pipes that routes domestic sewage from homes and other buildings to a wastewater treatment plant. Storm sewers, on the other hand, are not usually routed to a treatment system. Instead, they convey runoff through open drainage ditches and underground pipes and empty directly to the ground, streams, or ponds.

What pollutants are found in storm water?

Soil and dirt, trash and debris, cigarette butts, oil and grease, and metals are common pollutants found in storm water. Storm drains divert runoff away from urban areas to prevent flooding and water damage. However, when these pollutants wash into streams, ponds, and rivers, water quality can be harmed. The following tips are useful in preventing water pollution.

KEEP THE
STORM DRAINS
CLEAN FOR
THOSE DOWNSTREAM



Improving Storm Water Quality

Contact the DPW-Environmental
and Natural Resources Division
at (703) 806-4676

Storm drains divert runoff away from urban areas to prevent flooding and water damage

Storm Water Pollution Prevention Tips:

Car Care

- ◊ Inspect your car for leaks.
- ◊ Repair leaks promptly.
- ◊ Recycle used oil and filters at AAFCES gas station or autocraft shop.
- ◊ Use drip pans and funnels when changing fluids.
- ◊ Dry sweep floors instead of wet washing.
- ◊ Wash cars with a bucket and sponge, not a running hose.

Spills

- ◊ Keep a spill kit in your garage.
- ◊ Clean up spills immediately.
- ◊ Properly dispose of waste material.
- ◊ Do not rinse the spill area with water.

Pet Waste

- ◊ Clean up after your pet.
- ◊ Dispose of pet waste by flushing, burying, or trashing.

Drains

Avoid sewer backups with these tips:

- ◊ Do not put fats down the drain.
- ◊ Containerize fats for trash disposal.
- ◊ Use sink strainers.

Lawn Care

- ◊ Buy only amounts of lawn chemical needed for the job.
- ◊ Follow label directions.
- ◊ Determine application area and mix only the amount needed.
- ◊ Spot treat when possible.

Yard waste

- ◊ Promptly pick up clipped grass, leaves, pruned limbs, and other yard waste from your sidewalks, lawn, and driveway.
- ◊ Bag yard waste for proper disposal.

Storage

- ◊ Store chemicals in locked storage areas.
- ◊ Store pesticides, herbicides, and fertilizers in original labeled containers.
- ◊ Store like chemicals together.
- ◊ Keep containers tightly closed.
- ◊ Do not flush hazardous items down the drain.
- ◊ Tightly seal paint cans and store upside-down to allow a seal to form around the lid.

Household hazardous waste

- ◊ Turn in household hazardous waste on special pickup days regularly scheduled by the installation environmental office.
- ◊ Do not pour hazardous products on the ground or into gutters or storm drains.

- ◊ Donate usable paint, solvents, automotive fluids, pesticides, fertilizers, and cleaning products for reuse.
- ◊ Use nontoxic (or less toxic) alternatives when possible.

Improving Storm Water Quality

- ◊ Prevents water pollution.
- ◊ Improves fishing and boating.
- ◊ Maintains recreational swimming areas.
- ◊ Helps prevent disease transmission from contaminated fish or swimming areas.
- ◊ Preserves natural beauty of streams, rivers, ponds, and lakes.

Reduce, Reuse, Recycle!



Automobile Maintenance and Car Care - Tips for the Homeowner

KEEP THE STORM DRAINS CLEAN FOR THOSE DOWNSTREAM

Oil and grease can destroy fish gills and block oxygen from the fish, while other chemicals can have toxic effects.

Routine automobile maintenance can pollute streams, ponds, and rivers. This occurs when washing vehicles or if oil or other vehicle fluids leak onto paved areas. Storm water runoff from paved areas (roads, driveways, and parking areas) carries contaminants into streams, ponds, and rivers, harming aquatic life. Oil and grease can destroy fish gills and block oxygen from the fish, while other chemicals can have toxic effects. Here are some maintenance tips that will reduce water pollution:

Fluid Maintenance

- △ Change your oil and other lubricants regularly.
- △ Identify leaking fluids and repair promptly.
- △ Use a funnel and drip pan to contain spills during fluid changes.
- △ Drop off used oil at the Autocraft shop or AAFES gas station.
- △ Place drip pans under the spouts of liquid storage containers.

Cleaning

- △ Dry sweep garage floors instead of wet washing.

- △ Use nontoxic cleaning products, such as:
 - △ baking soda paste to clean battery terminals, chrome, wheels, and tires;
 - △ dishwashing soap or abrasive soap pads for tire cleaning; and
 - △ white vinegar with water to clean windows; dry with crumpled newspaper.

Vehicle Washing

- △ Wash vehicles at a car wash that recycles water, or use a bucket and sponge (not a running hose). This conserves water and minimizes runoff.

Spills

- △ Prepare a spill cleanup kit for use in your garage.
- △ Clean up spills immediately, using kitty litter, sawdust, or commmeal.
- △ Dispose of waste material properly; call the environmental office for instructions.

Contact the DPW-Environmental and Natural Resources Division at (703) 806-4676.



Improving Storm Water Quality

Lawn Care, Fertilizer and Water Pollution

KEEP THE STORM DRAINS CLEAN FOR THOSE DOWNSTREAM

Natural methods of lawn care in conjunction with chemicals can produce a healthy lawn and protect water quality.

The overuse of lawn fertilizers and weed killers can harm streams, rivers, and ponds. Sole reliance on chemicals is no longer recommended for maintaining a beautiful lawn. Instead, natural methods of lawn care in conjunction with chemicals can produce a healthy lawn and protect water quality. Certain grasses can filter pollutants (fertilizers, herbicides, sediment) and some types can control weeds while requiring less fertilizer and water. Here are some tips:

Mowing

- ◊ Don't mow too close to the ground; taller grass produces deeper roots and controls weeds.
- ◊ Practice "grasscycling", and leave clippings on the lawn to provide natural fertilization (do not blow them into ditches or streams).
- ◊ Do not mow wet grass; this causes clumping.
- ◊ Use composted yard waste as mulch and soil conditioner.

Fertilizers

Fertilizers contain nutrients (nitrogen and phosphorus) that can harm water quality by causing undesirable plants to grow in streams and ponds, blocking oxygen from the fish. Fertilizers high in nitrates (nitrogen) are more likely to enter streams because they are released more quickly. Here are some best management practices:

- ◊ Apply according to label directions. Do not apply fertilizer:
 - when the ground is frozen.
 - before or after heavy rain or irrigation.
 - during cold weather (less than 55 degrees Fahrenheit).
 - directly into, or near, streams, ponds, or ditches.
- ◊ Minimize application rates on slopes.
- ◊ Use fertilizers labeled "slowly-available nitrogen" on sandy soils, since they are less likely to enter streams.
- ◊ Base fertilizer applications on a representative soil test that shows the amounts of nutrients in the soil, waiting three to four weeks after the last fertilization.
- ◊ Aerate compacted soil to aid incorporation of fertilizer and reduce runoff.
- ◊ Maintain a vegetated buffer zone between frequently fertilized lawns and streams to prevent pollution and provide uptake of nutrients.
- ◊ Water carefully to prevent runoff and leaching.
- ◊ Water in the early morning for optimal results.
- ◊ Follow local applicable water use restrictions.

Contact the DPW-Environmental and Natural Resources Division at (703) 806-4676.



Improving Storm Water Quality

Pet Waste and Water Quality

KEEP THE STORM DRAINS CLEAN FOR THOSE DOWNSTREAM

Pet waste left to decay on the street or grass, or waste washed into storm drains, is a threat to water quality and public health.

Pollutants from animal wastes can be washed into streams and storm drains during rain or snowmelt. Storm drains around your housing area and elsewhere on the installation usually discharge directly into streams, ponds, or rivers. Are you cleaning up after your pet?

How Do You Dispose of Your Pet's Waste?
Pet waste left to decay on the street or grass, or waste washed into storm drains, is a threat to water quality and public health. When pet waste enters a stream with storm water runoff, it consumes oxygen upon decay. The oxygen reduction can harm aquatic life and adversely affect overall stream health. Pet waste also contains nutrients that encourage weed and algae growth. In addition, pet waste may carry infectious organisms, bacteria, and other pathogens that can make streams and ponds unsafe for recreation.

Are You Risking Your Health?
Improper disposal of pet waste is not just a water quality issue. Pets, children who play outside, and adults who garden risk infection from the bacteria and parasites found in pet waste. Fortunately, there are some simple things you can do to help keep the installation and our streams clean and healthy.

You Can Make a Difference!
Cleaning up after your pet can be as simple as taking a plastic bag or paper cup along on your next walk. But what should you do with the waste you collect? Here are some tips for proper disposal:

Flush it down the toilet.

The water from your toilet goes to a wastewater treatment facility. Special processes there can remove animal waste prior to discharging the water to a stream, pond, or river. Remember to prevent plumbing problems by not flushing rocks, sticks, or kitty litter down the toilet. Cat feces may be scooped out and flushed down the toilet, but used litter should be put in a closed bag for disposal as household garbage.

Bury it in the yard.

Dig a hole or trench that is about 5 inches deep, and away from vegetable gardens, ponds, streams, rivers, ditches or wells. Fully cover the waste with soil. When the waste begins to decay, valuable nutrients are released as fertilizer for nearby plants.

Put it in the trash.

Bag the waste and place the closed bags in the trash.

Around Your Home:

For yard pet waste, be sure to clean up areas near wells, drainage ditches, waterways, and storm drains. Promptly remove pet waste from areas where children play. To prevent possible contamination, thoroughly wash hands with soap and water after any contact with pet waste.

Contact the DPW-Environmental and Natural Resources Division at (703) 806-4676.



Improving Storm Water Quality

ATTACHMENT C MS4 PERMIT COMPLIANCE GUIDANCE

Fort Belvoir's Municipal Separate Storm Sewer System (MS4) Program Review Procedures

Point of Contact: Melanie Frisch, MS4 Program Manager, DPW ENRD 703-806-0046

Fort Belvoir was issued a Municipal Separate Storm Sewer System (MS4) Permit to review construction design plans for stormwater management and erosion and sediment control and to ensure these plans are in compliance with the Virginia Stormwater Management Program (VSMP) General Permit. The Fort Belvoir DPW, ENRD office reviews construction plans for projects disturbing areas of 2500 square feet and greater to determine if the design plans are in compliance with Virginia and Fairfax County laws and regulations governing Virginia Erosion and Sediment Control Handbook (VESCH), the Fairfax County Public Facilities Manual (PFM) and the Virginia Stormwater Management Handbook (VSMH). At this time there are no specific requirements regarding implementation of Section 438 of the EISA 2007 however you are asked to comply with these requirements when technically feasible.

The construction design plans shall identify all stormwater management structures and facilities and the accompanying documents shall include stormwater management calculations. The project design plans shall identify both the Phase I and Phase II Erosion and Sediment Control Plans and shall include a narrative describing these controls. The items required to complete a Stormwater Pollution Prevention Plan (SWPPP) and the Registration Statement for the VSMP permit plus the permit fees can be found at:

http://www.dcr.virginia.gov/soil_and_water/documents/vsmpgenpermvar10.pdf
http://www.dcr.virginia.gov/soil_and_water/vsmp.shtml
<http://www.dcr.virginia.gov/forms/DCR199-145.pdf>

DPW ENRD will review design plans and accompanying documentation to ensure design plans meet state and county requirements. Comments generated from the review will be provided to the project proponent through Dr. Checks, by email or by 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 construction plans. Once all comments have been addressed and deemed complete the project proponent will be directed to complete the following steps:

- Submit 3 copies of the PE sealed and stamped construction plans to DPW ENRD
- Submit the SWPPP to DPW, ENRD
- Submit the VSMP Registration Statement and application fee to the Virginia DCR and provide copies of both to DPW
- Submit the Excavation Permit application to Janet Lower. Ms. Lower is located in Suite 107 of the DPW Building; her phone number is (703)806-3925

After the Excavation Permit is assigned a number, the DPW, ENRD will prepare a Land Disturbance Letter for the Director of DPW's signature. At this time the Director will also sign the approved plans.

Two copies of the signed, approved construction plans along with the signed Land Disturbance Letter will be provided to the project proponent.

One set of the signed approved plans and the signed Land Disturbance Letter shall be kept on site during all phases of construction.

Fort Belvoir MS4 Review/Authorization To Start Work Procedures

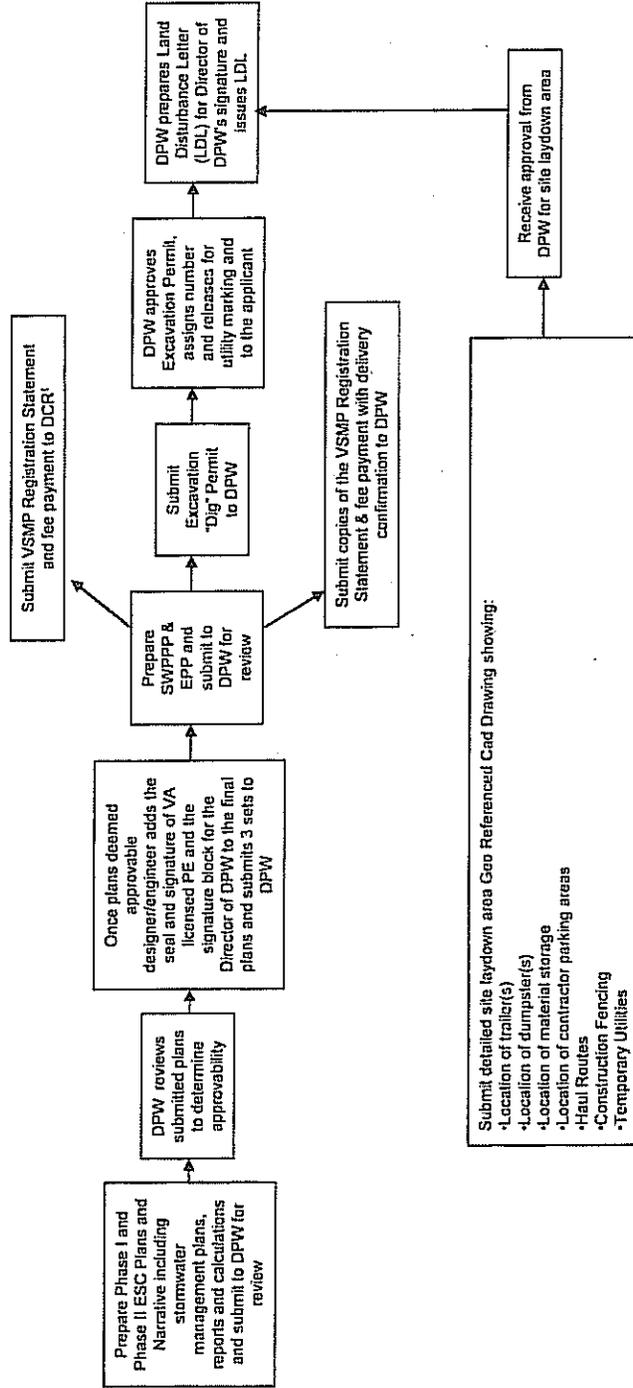
Points of Contact (POCs)

SWIM, ESC, SWPPP, LDL = Melanie Frisch 703-806-0046

EPP = Marc Russell 703-806-3455

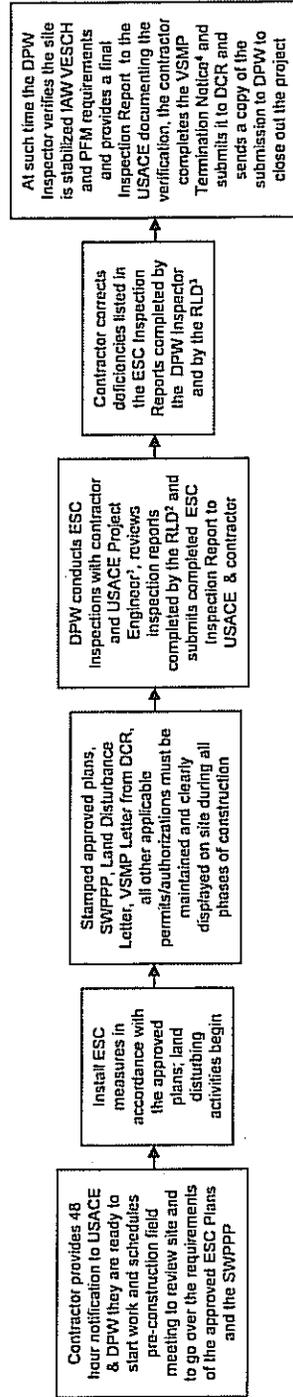
Excavation Permit = Janet Lower 703-806-3925 & David C. Hargett 703-806-3765

Site Laydown Area = Chris Landgraf 703-806-4641



Note:
1. Per Item 12 of the VSMMP Registration Statement, signature of the owner/applicant on the Registration Statement certifies the SWPPP has been prepared and it was prepared in accordance with the VSMMP General Permit.

Fort Belvoir MS4/Erosion and Sediment Control Inspections



- Notes:**
1. DPW conducts inspections every 2 weeks and within 48 hours after any runoff producing storm event greater than 0.5 inches.
 2. RLD conducts inspections independent of DPW's inspections at least once every week or at least once every 2 weeks and within 48 hours after any runoff producing storm event greater than 0.5". The RLD records his/her findings from the inspection on an ESC Inspection Report and files the Report in the SWPPP.
 3. The RLD/Contractor must initial and date on the DPW and the RLD inspection reports when the deficiencies noted on the reports were corrected. All inspection reports (DPW's and the RLD's) must be placed into the SWPPP document.
 4. The VSMP Termination Notice form is located at <http://www.dcr.virginia.gov/forms/DCR199-147.pdf>

ATTACHMENT D EROSION AND SEDIMENT CONTROL INSPECTION REPORT
FORM

Fort Belvoir Erosion and Sediment Control Inspection Report

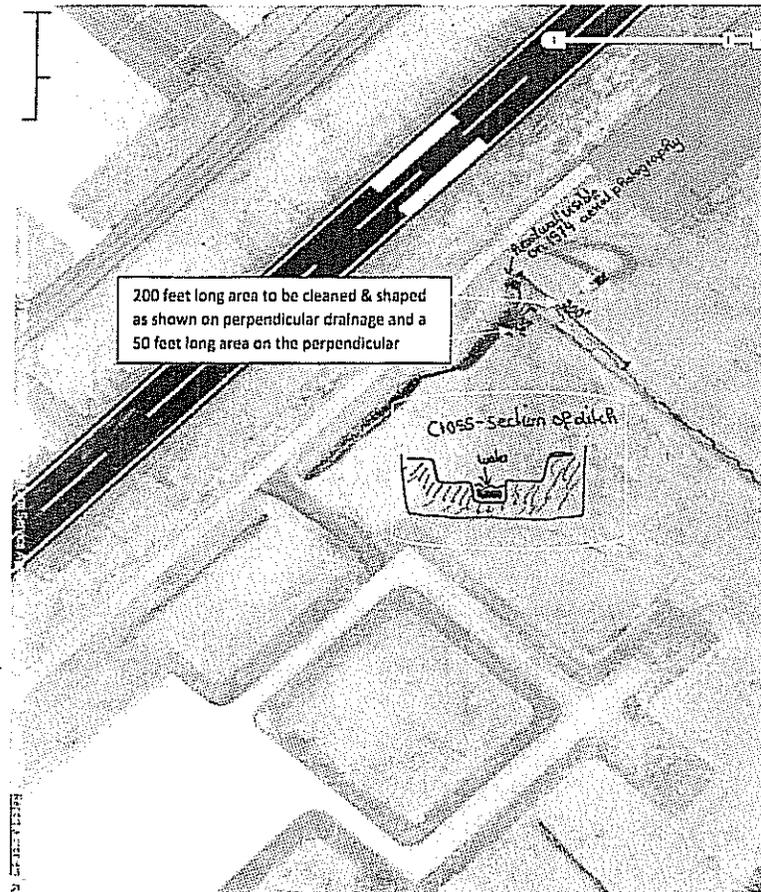
Project Name:		Project Authority:		<input type="checkbox"/> Scheduled Inspection	Date:
RLD Name:		RLD No.:		<input type="checkbox"/> Post Rain Inspection	
Project Location:		Attendees:		<input type="checkbox"/> Re-Inspection	Time:
Inspector Name:				<input type="checkbox"/> Other	
Item #	State/Local Regulation ⁽¹⁾	Violation		Description & Location of Problem/Violation ⁽²⁾ , Required or Recommended Corrective Actions and Other Comments/Notes	
		Initial	Repeat		
	MS-1 & 5				
	MS-2				
	MS-3				
	MS-4 & 6				
	MS-7				
	MS-8, 9 & 11				
	MS-10				
	MS-12-15				
	MS-16				
	MS-17				
	MS-18				
	MS-19				
<p>(1) Refers to applicable regulation found in the most recent publication of the <i>Virginia Erosion and Sediment Control Regulations (AVAC50-30)</i>, <i>Virginia Stormwater Management Regulations (4VAC3-20)</i>, or local ESC/SWM ordinance.</p>					
<p>(2) Note whether or not off-site damage resulting from the problem/violation was evident during the inspection.</p>					
REQUIRED CORRECTIVE ACTION DEADLINE DATE: _____				Re-inspection Date: _____	
<p>The required corrective action deadline date applies to all violations noted on this report. If listed violation(s) currently constitute non-compliance and/or required corrective actions are not completed by the deadline, a NOTICE TO COMPLY, STOP WORK ORDER and/or other enforcement actions may be issued to the entity responsible for ensuring compliance on the above project.</p>					
Inspector Signature: _____				Date: _____	
Acknowledgement of on site report incident:					
Print Name		Signature			Date
<p><i>This report will be provided to the following parties via mail, fax or e-mail within 24 hours of inspection:</i></p>					

Violations with Suspense Dates

Item #	State/Local Regulation	Violation		Description & Location of Problem/Violation (2), Required or Recommended Corrective Actions and Other Comments/Notes	Anticipated Correction Date
		Initial	Repeat		
Notes & Other Comments:					

ATTACHMENT E WATERSHED CORRECTION PROJECT

Findings from the site visit conducted by Sybille Vega and Melanie Frisch of Fort Belvoir DPW ENRD on Tuesday, November 10, 2009 at the drainage that flows into a Northwesterly direction, perpendicular from the runway to Accotink Creek and a ditched swale that runs parallel to the drainage in a Northeasterly direction. The channel must be re-shaped and graded to achieve a positive drainage (a minimum of 0.5% slope and tie in at grade in the downstream end of the 200 linear feet long main drainage. The tie in needs to be at the existing channel grade or new ponding and scour will occur.



This project was constructed during the 2010-2011 reporting period.

1 of 6



In an aerial photograph from 1974 is a headwall visible in this location. Based on aerial photography, a stream used to flow in the location of the parking lot near the taxi way at the Washington National Guard/Reserve parking lot. A channel came in from the Southwest area and one from the Northwest area under the now existing parking lot. The location of the inlet is not determinable on the aerial photography, only that three streams merged and then disappeared somewhere near the center area close to the taxi way of the existing parking lot/paved area. Since the exact location of the inlet cannot be determined and the entire area is paved on an active travel way the option of sealing off the inlet is not practicable. However, the area above in the photograph should be stabilized by locating the existing

2 of 6

pipe and installing a new headwall. Also, to grade back the banks to a minimum 3:1 slope and seeded with grass or installing a retaining wall. Once growth is established the area and slopes should be mowed at least twice yearly to prevent growth of trees and shrubs.



The area circled on the above photo graph represents approximately the 50 linear feet of drainage that need to be excavated and re-shaped in order to alleviate the ponding inside the drainage. This area drains into the main drainage and the confluence must meet in grade the same grade of the main drainage channel. All of these channels need to have a positive drainage (minimum of 0.5% slope) to

3 of 6

the end of the improvement area approximately 200 linear feet downstream of the area where the headwall should be installed.



The circled area above includes the approximate 200 linear feet of drainage channel re-grading and sediment removal that needs to be accomplished. The point furthest downstream, at the end of the drainage improvements must be at the same grade than the existing grade at this location. The drainage channel needs to have a minimum of 0.5% fall / slope to the end of the improvement to have enough positive drainage to have flowing water. The reason why the area currently does not properly drain is because of the large amount of sediment accumulation inside the drainage channel. Also, once

4 of 6

the new channel has vegetation, the vegetation needs to be managed through mowing to maintain the flows at least twice a year.



Inside the channel are pipes located at some point. These pipes should be removed from the flows since they obstruct flows. Removal of the broken pieces should be at a minimum completed, however, the removal of the existing intact pipes would need to be coordinated with Tim Betts of DPW ENRD and Mr. Mike Smith of DPW O & M Division. Mr. Betts thinks that these pipes might be abandoned but he is not certain of what they are and to the status of these pipes. If the existing intact pipe cannot be moved then the flows should flow underneath the pipe. Moreover, if the intact pipe cannot be removed, this area then would need to be actively monitored after storms to avoid having debris wedged at that location for a prolonged period of time that would cause excessive accumulation of sediment, which in turn will cause upstream ponding again.

The cleaning and regarding of the channel for the total distance of 250 linear feet would be covered under Nationwide Permit 41 – Reshaping Existing Drainage Ditches provided that:

- the reshaping drainage ditch cannot increase capacity of ditch or drain additional waters of the U.S.
- does not authorize relocation of drainage ditches constructed in waters of the U.S.

5 of 6

When the work is being planned and when the pre-con meeting is being held please notify Ms. Melanie Frisch and Sybille Vega .

6 of 6

ATTACHMENT F STORMWATER MANAGEMENT STRUCTURES

Rain Garden	PL27	Dogue Creek	0.25
Rain Garden	PL27	Dogue Creek	0.25
Rain Garden	PL27	Dogue Creek	0.25
Rain Garden	PL27	Dogue Creek	0.25
Enhanced Extended Detention	PL27	Dogue Creek	15.6
Enhanced Extended Detention	PL27	Dogue Creek	15.6
Sediment Forebay	PL27	Dogue Creek	15.6
Enhanced Extended Detention	PL27	Dogue Creek	14.3
Enhanced Extended Detention	PL27	Dogue Creek	14.3
Enhanced Extended Detention	PL27	Dogue Creek	13.8
Enhanced Extended Detention	PL27	Dogue Creek	13.8
Sediment Forebay	PL27	Dogue Creek	13.8
Enhanced Extended Detention	PL27	Dogue Creek	14.8
Enhanced Extended Detention	PL27	Dogue Creek	25.7
Enhanced Extended Detention	PL27	Dogue Creek	14.8
Bioretention	PL27	Dogue Creek	13.6
Bioretention	PL27	Dogue Creek	5
Bioretention (2), green roof, permeable pavers, filterras	PL27	Dogue Creek	54.84
Enhanced Extended Detention	PL30	Accotink Creek	33.2
Detention	PL30	Accotink Creek	7.4
Detention	PL30	Accotink Creek	4.9
Infiltration	PL30	Accotink Creek	9.5
Detention	PL30	Accotink Creek	10.7
Retention	PL30	Accotink Creek	56.8
Detention	PL30	Accotink Creek	5.5
Extended Detention	PL30	Accotink Creek	6.9
Enhanced Extended Detention	PL30	Accotink Creek	24.8
Extended Detention	PL30	Accotink Creek	11.5
Detention	PL30	Accotink Creek	7.4
Detention	PL30	Accotink Creek	12.9
Detention	PL30	Accotink Creek	18.4
Extended Detention	PL30	Accotink Creek	19.6
Detention	PL30	Accotink Creek	4.5
Detention	PL30	Accotink Creek	6.2

BMPs that came on line during reporting year are highlighted. Inventory of BMPs is in process of field survey. Next year report will include results of survey.

Detention	PL30	Accotink Creek	7.8
Detention	PL30	Accotink Creek	5.6
Rain Garden	PL30	Accotink Creek	0.75
Bioretention	PL30	Accotink Creek	16.5
Retention	PL30	Accotink Creek	42.7
Extended Detention	PL30	Accotink Creek	26.8
Plunge Pool	PL30	Accotink Creek	3.5
Bioretention	PL30	Accotink Creek	15.58
Filterras	PL30	Accotink Creek	7.27
Underground Detention System	PL30	Accotink Creek	9.57

BMPs that came on line during reporting year are highlighted. Inventory of BMPs is in process of field survey. Next year report will include results of survey.