



Virginia Department of Transportation

Pollutant Discharge Elimination System

General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems

Serving the

Urbanized Areas of Virginia

Registration # VA040115 - coverage from July 1, 2008 to June 30, 2013

MS4 YEAR THREE PROGRESS REPORT

July 1, 2010 to June 30, 2011

October 12, 2011

Virginia Department of Transportation
Location and Design Division
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Certification:

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

Print Name: Mr. Gregory A. Whirley Title: Commonwealth Transportation Commissioner

Signature: _____ Signature on file _____ Date: Oct. 6, 2011 _____

VIRGINIA DEPARTMENT OF TRANSPORTATION
MS4 PROGRAM

The Virginia Department of Transportation's (VDOT's) Municipal Storm Sewer System Program (MS4) is presented in the form of the six minimum control measures required by the Virginia MS-4 General Permit. This program has been developed with a consistent statewide implementation strategy since VDOT maintains regulated MS4s (or components of regulated MS4s) within the public right-of-ways within all thirteen designated urbanized areas of Virginia. While VDOT's MS4 Program is targeted toward those that construct, maintain and utilize its transportation infrastructure and facilities, many of the program's proposed goals have the potential for a broader appeal.

The VDOT MS4 program has and continues to improve environmental compliance, quality and stewardship on VDOT land-disturbing activities through effective management, implementation, and enforcement of sound technical guidelines, criteria, and practices for stormwater management and erosion and sediment control.

This Annual Report identifies the progress towards achieving the measurable goals, as well as any changes and/or additions identified for each BMP. A description of VDOT's proposed Best Management Practices (BMPs) for each minimum control measure, and the Year 3 goals and accomplishments, is summarized on the following pages:

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1	<u>Best Management Practices for Public Education and Outreach</u> <i>Distribute educational materials and perform outreach to inform citizens about the impacts polluted stormwater runoff discharges can have on water quality.</i>
A	Public Education Provide information on storm water quality, regulatory requirements; information on public participation, and links for additional information.
B	Public Outreach Employ diverse strategies to target audiences specific to the area serviced by the regulated MS4

BMP 1A	Public Education - Public Affairs Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Develop and maintain a Stormwater Management Web page on www.VirginiaDOT.org ➤ <i>Measure:</i> The development of the page, and visitor statistics based on industry-accepted Web metrics tools. ➤ <i>Goal:</i> Post and promote the availability of the Stormwater Management educational video and public service announcements (PSAs) on the VDOT Stormwater Management Web page and the Commonwealth of Virginia’s YouTube Web page. ➤ <i>Measure:</i> The posting of the video and PSAs on both Web pages and number of requests received for copies. ➤ <i>Goal:</i> Develop a VDOT Stormwater Management fact sheet. An electronic version of the fact sheet will be posted on the VDOT Web page. Additionally, copies may be printed and distributed to the public and other MS4 operators. ➤ <i>Measure:</i> The development of the fact sheet and its posting on the VDOT Web page, and the number of copies distributed. ➤ <i>Goal:</i> Partner with other MS4 operators to broadcast SWM Public Service Announcements (PSAs) twice in each urbanized area per permit cycle. ➤ <i>Measure:</i> Number of times PSAs are broadcast.
Milestone Yr 3	<ul style="list-style-type: none"> • Maintain the Stormwater Management Web page on www.VirginiaDOT.org. • Continue posting information regarding VDOT’s Stormwater Management Program as available. • Partner with other MS4 operators to broadcast the Stormwater Management.
Accomplishments	<ul style="list-style-type: none"> • The VDOT Stormwater Management webpage continues to be maintained. • Up-to-date content is posted on the webpage, including the VDOT organizational chart, general permit registration statement and progress reports. • VDOT’s Stormwater Management public service announcements are available on the program webpage and the agency’s YouTube channel.

BMP 1B(1) (a)	Public Outreach – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Install message signs and mechanism for distribution of informational brochures at pet waste stations at safety rest stations and welcome centers regarding environmental effects of pet waste and encouraging pet owners to properly dispose of their pet waste. ➤ <i>Measure:</i> Number of signs installed and number of brochures distributed.
Milestone Yr 3	<ul style="list-style-type: none"> • Install message signs and distribute brochures at pet waste stations on environmental effects and proper disposal of pet waste.
Accomplishments	<p>DOGIPOT pet waste stations have been installed at all rest areas/welcome centers. The pet waste stations are part of VDOT’s Monthly Quality Assessment Review/Safety Rest Area Inspection. This inspection reviews the Pet Stations for functionality and to assure they are being maintained and stocked. The pet waste stations are stocked with disposal bags as part of the normal maintenance operation. VDOT has developed a concept for signage to be placed on the DOGIPOT stations and other yet to be identified locations at the Rest Areas/Welcome Centers. The design of the sign will be approved in the Fall of 2011 and signs installed after they are manufactured. A sign was developed because site management at the Rest Areas/Welcome Centers has noted abuses and waste of brochures placed at the main buildings and expressed concerns about placing brochures at the remote locations such as the pet waste areas as previously planned. If the signage is successful then consideration will be given to developing a brochure and other promotional material based on the theme and graphics. A PDF of the sign and any other materials developed will be placed on the VDOT MS4 website.</p>

BMP 1B(1) (b)	Public Outreach –Traffic Engineering Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Promote storm drain stenciling and Adopt-a-Highway programs. <i>Measure:</i> Number of land use permits issued for storm drain stenciling and highway miles adopted under the Adopt-a-Highway program.
Milestone Yr 3	Promote storm drain stenciling and Adopt-a-Highway programs and track number of permits issued and highway miles adopted.
Accomplishments	<ul style="list-style-type: none"> • 1 multi-location permit for storm drain stenciling was issued for multiple locations in Fairfax County, ending December 2011. • A total of 22,186 miles are currently adopted by citizens for clean up in the Adopt-a-Highway Program.

BMP 1B(2)	Public Outreach – Traffic Engineering Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Participate in watershed sign installation program based on available funding. ➤ <i>Measure:</i> Total number of signs installed.
Milestone Yr 3	<ul style="list-style-type: none"> • Install additional watershed signs based on available funding.
Accomplishments	<ul style="list-style-type: none"> • Installed 2 new signs in Henrico/Hanover Jurisdiction on Rt I-295 at a cost of \$6,376.00. Signs stated “Chickahominy River CBWS – A Scenic River”

2	<u>Best Management Practices for Public Participation and Involvement</u> <i>Provide opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives on a stormwater management panel.</i>
A	Public Involvement Provide public access to information pertaining to VDOT's MS4 Program.
B	Public Participation Participate in watershed organizations and local government technical advisory committees to ensure that provisions for linear development projects are incorporated into local watershed planning.

BMP 2A	Public Involvement - Public Affairs Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Make available for public review VDOT's MS4 Program Plan and subsequent annual reports on the VDOT Stormwater Management Web page. Promote the location of the Stormwater Management Web page in VDOT publications, where applicable. ➤ <i>Measure:</i> Visitor statistics based on industry-accepted Web metrics tools.
Milestone Yr 3	<ul style="list-style-type: none"> • Post MS4 Program Plan on the VDOT Stormwater Management Web page. • Continue to promote the location of the Stormwater Management Web page in VDOT publications, where applicable.
Accomplishments	<ul style="list-style-type: none"> • The MS4 Program Plan is posted on the VDOT Stormwater Management webpage. This webpage had approximately 1308 inquiries during the last year. • The Public Affairs Division has been working with the Maintenance Division on the development of a pet waste disposal brochure or poster to be placed at state rest areas and welcome centers. The final product will include the web address for VDOT's Stormwater Management program.

BMP 2B(1)	Public Participation – Location and Design Lead Division for project design related issues
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Participate in local activities aimed at increasing public awareness of water quality and stormwater issues. ➤ <i>Measure:</i> Number of watershed planning meetings attended.
Milestone Yr 3	<ul style="list-style-type: none"> • Participate in watershed planning meetings and maintain a summary of issues considered.
Accomplishments	<ul style="list-style-type: none"> • VDOT employees participated in the following meetings / activities • IDDE informational meetings • BMP Education Initiatives • Chesapeake Bay WIP Phase II Stormwater Committee meetings • Joint Environmental Subcommittee Meetings - HRPDC Chesapeake • Stormwater Regulatory Action and related meetings -Technical Advisory Committee, BMP Clearing House Committee • Rivanna Regional Educational Partnership (RRSEP) meetings.

	<ul style="list-style-type: none"> • MS-4 stakeholders meetings • Rivanna Rambler for Outreach meetings • Reviewed the Virginia's Region 2000 Local Government Council TMDL implementation plan. • Attended Public informational meeting of the plan that was held at the Lynchburg City Library • VCU SWM workshop • Attended Various TMDL Development meetings
BMP 2B(2)	Public Participation – Environmental Lead Division for water quality related regulatory issues
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ Goal: Participate in local activities aimed at increasing public awareness of water quality and stormwater issues. ➤ Measure: Number of watershed planning meetings attended.
Milestone Yr 3	<ul style="list-style-type: none"> • Participate in watershed planning meetings and maintain a summary of issues considered.
Accomplishments	<p>A total of 45 meetings were attended– Coastal Zone Management Policy Team Meetings (2), Environmental Research Advisory Committee, CZM Coastal Partners Workshop, ChesBay TMDL Updates 5&7 Webinars, L&D Stormwater Management Workshop, 2010 Virginia Stormwater Symposium, ChesBay Ph. II WIP Stakeholders Advisory Group Meeting (2), DCR ChesBay WIP Ph. II Team Meetings (5), Center for Environmental Excellence Stormwater Webinar, Northern Neck PDC WIP Ph. II Target Loads Meeting, Upper Tennessee River Roundtable, Piedmont Regional TMDL Meeting, Rivanna River Basin Committee, Rockfish River Bacteria TMDL Steering Committee, Bay TMDL Public Hearing, Elizabeth River PCB TMDL, James River Bacteria TMDL(3), James River PCB TMDL, Hunting Creek TMDL, Lynchburg TMDLs, Meadow Creek, Schenks, Moores Creek & Lodge Creek TMDL (2), Meadow Creek, Schenks Branch, Moores Creek & Lodge Creek TMDL TAC, York River Basin Bacteria TMDL, Northwest River Bacteria TMDL, Potomac River Bacteria TMDL (7) Hoffler Creek TMDL, Tidal James River and Tribes PCB TMDL, Elizabeth River PCB TMDL TAC, Lower Tidal James River PCB TMDL TAC.</p>

Best Management Practices for Illicit Discharge Detection and Elimination (IDDE)	
3	<i>Develop, implement, and enforce a program to detect and eliminate illicit discharges into VDOT's stormwater system.</i>
A	Prevent or minimize to the maximum extent practicable, the discharge of hazardous substances or oil Guidance addresses the issues of illicit discharge. Non-storm water discharges will be prohibited, except for those of uncontaminated water as listed in the permit requirements. Education on illicit discharges will be a key component.
B	Evaluate guidance to identify and report Illicit Discharges Connections Guidance and procedures to detect and report the source of the illicit discharges into MS4
C	Continue to develop Inventory of Storm Water Systems An updated GIS-compatible digital database of storm water infrastructure outfalls.
D	Track the number of illicit discharges identified and eliminated Guidance for tracking and reporting illicit discharges
E	Prohibit, through ordinance, or other regulatory mechanism non-stormwater discharges Practices to eliminate and/or minimize illicit discharges
F	Address Total Maximum Daily Load (TMDL) Waste Load Allocation (WLA) streams within each MS4 Update plan within 18 months to include measurable goals, schedules, and strategies to ensure MS4 consistency with any TMDL for which waste loads have been allocated to the MS4
BMP 3A	Evaluate guidance and training programs to prohibit non-stormwater discharge into MS4 – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Review training guidance and current practices and update and revise as necessary ➤ <i>Measure:</i> An annual evaluation of guidance and practices ➤ <i>Goal:</i> Provide IDDE training programs to appropriate audiences. ➤ <i>Measure:</i> Number of employees, contractors, and volunteers trained.
Milestone Yr 3	<ul style="list-style-type: none"> • Review and update/revise training guidance and current practices related to IDDE as necessary. • Review and update/revise other training materials to incorporate guidance dealing with IDDE as necessary. • Provide IDDE training to appropriate audiences.
Accomplishments	<ul style="list-style-type: none"> • VDOT reviewed several guidance documents and other procedures that relate to IDDE and reducing pollutants from VDOT's MS4 discharge. • Currently working with VDOT's MS4 consultant to develop and formalize a written protocol for the IDDE program. The protocol will identify any training requirements for VDOT personnel. • Under the existing LUP Program, VDOT trained 22 land development staff in IDDE (Richmond and Fredericksburg Districts).
BMP 3B	Guidance to identify and report Illicit Discharges Connections – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Develop/revise illicit discharge identification and reporting protocols. ➤ <i>Measure:</i> Establishment of identification and reporting protocols. ➤ <i>Goal:</i> Establish a means for the public to report illicit discharges. ➤ <i>Measure:</i> Development of reporting system and number of reports received of potential illicit discharges.
Milestone Yr 3	<ul style="list-style-type: none"> • Modify illicit discharge identification and reporting protocols as necessary based on software purchased and /or the results of user acceptance testing of software. • Continue illicit discharge reporting system utilizing the VDOT SWM Program webpage, Adopt-A-Highway Program or through direct contact with the appropriate VDOT

	Residency/District Office.
Accomplishments	<ul style="list-style-type: none"> • Currently working with MS4 consultant to develop a written protocol for the IDDE Program. The protocol will identify the means to which the public can report illicit discharges. Once finalized, VDOT will implement the necessary communication provisions as identified by the protocol.

BMP 3C	Inventory of Storm Water System – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Develop and maintain an updated inventory of roadway outfalls in the MS4 urbanized areas. ➤ <i>Measure:</i> Development and implementation of inventory system and protocols. ➤ <i>Measure:</i> Percentage of centerline miles by roadway functional class by MS4 area inventoried.
Milestone Yr 3	<ul style="list-style-type: none"> • Perform pilot project for the collection of outfalls and critique the software and instructional manual and modify both as needed. • Make an in-house or outsource decision for outfall inventory for each of the MS4 urban areas based on the pilot. • Continued the inventory of the outfalls based on roadway functional classification and/or watershed as required for satisfying other MS4 BMPs.
Accomplishments	<p>VDOT contracted its MS4 Consultant (EEE) to perform a QA/QC review of the MS4 Target Model to determine if there are potential data gaps in the inventory. To perform the review EEE made field observations of areas that were not targeted using the current VDOT MS4 Target Selection Model. From the review there appears to be instances where outfalls are potentially being missed under the current approach. These instances are similar in nature, and tend to occur wherever there may be intermittent streams or topographic lows along the VDOT ROW.</p> <p>A Letters of Agreement have been negotiated with the Baltimore District, Norfolk District and Wilmington NC District of the U.S. Army Corps of Engineers (USACE) to complete the following tasks:</p> <ol style="list-style-type: none"> 1. Develop field collection procedures for GIS data system integrating VDOT targets. 2. Field survey and assessment of outfalls 3. Development of outfall database and GIS layers 4. Documentation of procedures 5. Final Report <p>The USACE can provide this assistance to VDOT in accordance with Section 22 of the Water Resources Development Act (WRDA) of 1974 (Public Law 93-251), as amended, which authorizes the Secretary of the Army, acting through the Chief of Engineers, to assist the States in the preparation of comprehensive plans for the development, utilization and conservation of water and related resources of drainage basins, watersheds and ecosystems located within the boundaries of such State.</p> <p>The completion of the outfall inventory/assessment for the Census Urban Areas will be completed in phases as the USACE is funded for their 50% matching funds. The USACE field survey will be completed by assigned watersheds within the VDOT MS4 Target Model. The function of the MS4 Target Model is to predict the most likely location of VDOT stormwater conveyances discharging into Waters of the US. The MS4 Target Model utilizes the most up-to-date hydrographic data and</p>

VDOT road centerline data, to identify locations where roadways maintained by VDOT are within a specified proximity to streams, water bodies or wetlands.

The model was refined and run for a third time in August 2011. The modifications included:

1. Census Urban Area Boundary Modification: The Census Urban Area boundary as modified to include all features (Roads, intersections, subdivisions, etc.) that were fractured by the Census Urban Area boundary. This change in the Census Urban Area was made to make field collection boundaries more understandable. For example the Roanoke Census Urban boundary bisected Interstate 81 and its intersections in many locations. The boundary was modified to move the Census Urban Boundary west of the interstate and its intersections for the complete length of the Census Urban Area.
2. Downloading the most up to date VDOT Roadway Network, USGS National Hydrograph Dataset, and National Wetlands Inventory - Wetlands Polygon Dataset.
3. Run the Target Model based on new datasets.
4. Target Review: Completion of a review of all targets to eliminate targets that are on routes that are not maintained by VDOT. The VDOT Roadway Network, GIS Feature Class used in the model currently does not supply sufficient data to determine if certain routes, such as business routes of US highways located in cities, are maintained by the cities or VDOT. A review of the maintenance status of any questioned route in HTRIS was completed and selected targets were marked for elimination when it was verified that VDOT does not maintain the road.
5. Grouping of targets within a specified proximity of each other into Clusters. For example, the five or six targets generated on the various road segments that make up an intersection at a stream crossing would be grouped into one cluster.

<u>CUA</u>	<u>Year 2 Report</u>		<u>Year 3 Report</u>	
	<u>Targets Nov 2009</u>	<u>Net Targets*</u>	<u>Targets Aug 2010</u>	<u>Net Targets*</u>
Blacksburg, VA	121	79	128	82
Bristol, TN--Bristol, VA	142	117	156	131
Charlottesville, VA	275	255	297	276
Danville, VA	145	89	152	92
Fredericksburg, VA	567	520	604	556
Harrisonburg, VA	174	148	185	158
Kingsport, TN—VA	77	77	83	83
Lynchburg, VA	264	213	279	226
Richmond, VA	2,858	2,455	3371	2872
Roanoke, VA	870	769	953	836
Virginia Beach, VA	2,844	1,828	3,206	2,051
Washington, DC-- VA—MD	4,517	4,308	5,046	4,802
Winchester, VA	300	296	328	324
VDOT Total	13,154	11,154	14,788	12,489

The results of the August 2010 run of the MS4 Target Model are shown in the table above

*Net Targets – Targets on routes that VDOT does not maintain were eliminated by comparing GIS routes to Highway and Traffic Records Information System (HTRIS) data. For example , targets on the Blue Ridge Parkway and U.S. highways in cities with business designations were removed.

See attachment # 3 for the assigned targets and outfalls inventoried in each of the Census Urban Areas.

BMP 3D	Track and eliminate illicit discharges – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Notify in writing any downstream regulated MS4 to which the VDOT small regulated MS4 is physically interconnected to their system. ➤ <i>Measure:</i> Total number of interconnected MS4 Operators notified. ➤ <i>Goal:</i> Develop and maintain a process for contacting and reporting illicit discharges to appropriate authority. ➤ <i>Measure:</i> Development of process and number of illicit discharges reported.
Milestone Yr 3	<ul style="list-style-type: none"> • Review/update list of MS4 localities and provide notification of physical interconnection as identified through implementation of outfall inventory. • Report verified illicit discharges to the appropriate authorities.
Accomplishments	<ul style="list-style-type: none"> • Nine new MS4 Permit holders were sent a letter notifying them of potential interconnections of VDOT's and their stormwater systems. All other permit holders were sent the potential interconnections letter in Year 2 of the permit. • VDOT's Outfall Reconnaissance Program identified three situations that resulted in VDOT reporting verified illicit discharges to the appropriate authorities (Bristol – sewage, Charlottesville – disposal of waste material from car wash into drop inlet, Albemarle – sewage leak not related to MS4 outfall). • VDOT has reviewed the existing maintenance agreements that it currently has with other state agencies that operate and maintain the roadway system. VDOT has drafted an agreements designed to clarify the MS4 responsibilities when VDOT has roadways inside the agencies MS4 area. VDOT has requested the OAG's office to review the proposed agreement.

BMP 3E	Prohibition of non-stormwater discharges – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Prohibit non-stormwater discharges into storm sewer systems through the Land Use Permitting Program. ➤ <i>Measure:</i> Number of guidance and training documents reviewed/ revised to incorporate IDDE identification procedures. ➤ <i>Measure:</i> Number of Land Use Permitting employees that participate in trained on IDDE identification.
Milestone Yr 3	Provide training to all new employees involved in the Land Use Permits Program on IDDE identification and conduct refresher courses to others as needed. Track number of employees trained.
Accomplishments	<ul style="list-style-type: none"> • 22 land development staff were trained in IDDE (Richmond and Fredericksburg Districts).

BMP 3F	Update MS4 plan to ensure consistency with TMDLs – Environmental Lead Division
BMP 3F(1)	Evaluate/revise/update legal authorities/policies/procedures
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Develop a list of existing legal authorities, policies and procedures that are applicable to reducing the pollutant identified in the WLA. ➤ <i>Measure:</i> Development of list. ➤ <i>Goal:</i> Develop and implement a schedule to evaluate existing legal authorities, policies and procedures to determine their effectiveness to address reduction of the pollutant identified in the WLA. ➤ <i>Measure:</i> Development and subsequent implementation of schedule ➤ <i>Goal:</i> Develop and implement a schedule to update existing legal authorities, policies and procedures to address weaknesses related to the MS4 Program and to ensure consistency with the TDML. ➤ <i>Measure:</i> Development and subsequent implementation of schedule.
Milestone Yr 3	<ul style="list-style-type: none"> • Complete year two milestone. • Begin the process of identifying revisions or modifications to existing legal authorities, policies and procedures needed to address weaknesses related to the MS4 Program for ensuring consistency with the TDML.
Accomplishments	<ul style="list-style-type: none"> • Developed a list of existing legal authorities, policies and procedures applicable to reducing sediment, bacteria and PCBs. Identified the documents that needed to be strengthened and ranked them based on criticality, scheduling and complexity using low/medium/high scale. • Draft revisions to the Secondary Street Acceptance Regulation (SSAR) and Guidance Manual provided to Transportation & Mobility Planning Division. SSAR is under legal mandate to be revised by Jan. 1, 2012. This process will include an advisory committee and public participation that could affect the proposed language submitted for inclusion or change. • Draft revisions under review for the Land Use Manual.
BMP 3F(2)	Update MS4 Program to address TMDL impacts
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Update the MS4 Program Plan to include information regarding TMDLs to ensure consistency; as a stakeholder participate in the development of any implementation plan to address the TDML and incorporate applicable best management practices identified in the TMDL plan into VDOT’s MS4 Program Plan. ➤ <i>Measure:</i> Number of TMDLs incorporated into VDOT MS4 Program Plan. ➤ <i>Measure:</i> Number of plans implemented to address identified WLA. ➤ <i>Goal:</i> Identify and develop an estimate of the area draining from within VDOT right of way to identified TMDL waterways. ➤ <i>Measure:</i> Number of areas identified. ➤ <i>Goal:</i> Develop a characterization of the annual flow that estimates the storm water discharged and the quantity of pollutant identified in the waste load allocation discharged by the MS4. ➤ <i>Measure:</i> Number of sites for which development of characterization of stormwater discharges was completed. ➤ <i>Goal:</i> Implement procedures, reconnaissance and sampling protocols to identify and address the discharge of the pollutant identified in the waste load allocation to the MS4. ➤ <i>Measure:</i> Implementation of procedures. ➤ <i>Goal:</i> Integrate an awareness campaign into the public education and outreach program that promotes methods to eliminate and reduce the discharges of the pollutant identified in the

	<p>WLA.</p> <ul style="list-style-type: none"> ➤ <i>Measure:</i> Number of employees trained regarding the sources and methods to eliminate and minimize the discharge of the pollutant.
Milestone Yr 3	<ul style="list-style-type: none"> • Complete development process and implement procedures, reconnaissance and sampling protocols to identify and address the discharge of the pollutant identified in the waste load allocation to the MS4. <p>Carryover of Yr 1 Milestones:</p> <ul style="list-style-type: none"> • Begin process of identifying VDOT facilities impacted by TMDL Implementation Plans. <p>Carryover of Yr 2 Milestones:</p> <ul style="list-style-type: none"> • Complete process of identifying VDOT facilities impacted by TMDL Implementation Plans. • Begin/complete process of developing an estimate of the area draining from within VDOT right of way to identified TMDL waterways. • Begin process of developing a characterization of the annual flow that estimates the storm water discharged and the quantity of pollutant identified in the waste load allocation discharged by the MS4 including procedures, reconnaissance and sampling protocols to identify and address the discharge of the pollutant identified in the waste load allocation to the MS4.
Accomplishments	<ul style="list-style-type: none"> • TMDL metadata layers incorporated into VDOT's GIS and framework developed for incorporating VDOT's MS4 data (outfalls, stormwater facilities) into VDOT's GIS. • Draft model completed for mapping TMDL watersheds in VDOT's GIS. • Site reconnaissance and sampling protocols developed. • Developed an introductory training module that covers basic information related to stormwater terminology, the VDOT MS4 Program, and VDOT activities that affect stormwater quality for staff that work in TMDL watersheds. • Prioritization plan developed for addressing 6 remaining watersheds in years 4&5. • To enhance the outfall reconnaissance program, VDOT developed a draft Outfall Reconnaissance Inventory Manual and a draft Illicit Discharge Detection and Elimination (IDDE) Manual <ul style="list-style-type: none"> • Completed the Stroubles and Crab Creek Watershed Studies ---see Table # 3

4	<u>Best Management Practices for Construction Site Runoff Control Program</u>
	<i>Develop, implement and enforce a program to reduce pollutants in storm water runoff from construction activities that result in a land disturbance of greater than or equal to one acre (2,500 sq ft in Chesapeake Bay Preservation Area).</i>
A	Guidance for Construction Site Runoff Control Program
	Implement qualifying state erosion and sediment control and stormwater management programs approved by the Virginia Department of Conservation and Recreation (DCR) on all regulated land disturbing activities.
B	Compliance Procedures for Land Disturbance Activities
	Review and certify erosion and sediment and stormwater management plans for regulated land disturbance activities, secure required coverage under the Virginia Stormwater Management (VSMP) Construction Permit, and track the activities. Perform final inspections to certify construction of post construction SWM facilities was completed per approved plans and that the facilities are functional.
C	Erosion and Sediment Control Training
	Provide training opportunities through the Erosion and Sediment Control Contractor Certification (ESCCC) Program and the In stream Maintenance Training Program. Ensure employees obtain the appropriate certifications required by the Virginia Erosion and Sediment Control (ESC) law.
D	Inspections and Quality Assurance Reviews

	Perform inspections in accordance with Virginia ESC Regulations and undertake quality assurance reviews to assess compliance with environmental commitments on all regulated land disturbance activities.
E	Enforcement Process Review administrative process for enforcement procedures, penalties for violations and procedures for issuing stop-work orders and revise/develop as appropriate.
F	Procedures for receipt and consideration of information submitted by the public Develop and implement procedures for the receipt and consideration of information submitted by the public concerning VDOT's stormwater program.

BMP 4A	Evaluate guidance for Construction Site Runoff Control Program – Location and Design Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Evaluate guidance documents, adjust/revise as appropriate. ➤ <i>Measure:</i> Number of documents reviewed and adjusted/revised. ➤ <i>Goal:</i> Secure annual approval of the VDOT ESC and SWM Standards and Specifications from DCR. ➤ <i>Measure:</i> Material submitted and approved by DCR. ➤ <i>Goal:</i> Continue to implement project tracking of regulated land disturbing activities in urban areas. ➤ <i>Measure:</i> Total number of land disturbing activities registered for VSMP Construction Permit coverage.
Milestone Yr 3	<ul style="list-style-type: none"> • Submit Erosion and Sediment Control and Stormwater Management Standards and Specifications to DCR for annual approval. • Acquire and track VSMP Construction Permit coverage for regulated land disturbing activities undertaken by the Department. • Review and update program guidance as appropriate.
Accomplishments	<ul style="list-style-type: none"> • Submitted the 2011 annual ESC & SWM Standards and Specifications to DCR for approval. • Acquired and tracked VSMP Construction Permit coverage for 68 land disturbing activities. impacting approximately Total land disturbance was approximately 342 acres. • All changes to the ESC & SWM design Standards and Specifications / guidance were included in the annual ESC & SWM Standards and Specifications submittal to DCR. • As part of another MS4 task to address TMDL requirements, VDOT reviewed several components of the ESC & SWM Standards and Specifications and their ability at reducing pollutants within the MS4 discharge including both the strengths and weaknesses. • Currently working with MS4 consultant to develop a specific manual and protocol for VDOT to utilize during routine maintenance activities. Once finalized, VDOT will submit to DCR for approval as part of the annual ESC & SWM Standards and Specifications.
BMP 4B	Compliance Procedures for Land Disturbance Activities – Location and Design Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Ensure that the requirements of VDOT's ESC and SWM Programs are followed for each land regulated disturbing activity through the VSMP ESC and SWM Plan Certification process and the Termination Notification process. ➤ <i>Measure:</i> Number of projects submitted for coverage under the VSMP Construction Permit and number of termination notices processed.
Milestone Yr 3	<ul style="list-style-type: none"> • Require certification of ESC and SWM Plans for regulated land disturbance activities. • Require certification of construction and functionality of post construction SWM facilities for regulated land disturbance activities.
Accomplishments	<ul style="list-style-type: none"> • All ESC & SWM plans were reviewed and approved by a DCR certified ESC plan reviewer prior to requesting the VSMP Construction Permit coverage.

BMP 4C(1)	Erosion Prevention and Sediment Control Training – Location and Design Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Provide VDOT’s Erosion and Sediment Control Contractor Certification (ESCCC) Program training to contractor personnel. ➤ <i>Measure:</i> Number of contractor personnel trained.
Milestone Yr 3	<ul style="list-style-type: none"> • Update/revise course material as necessary, • Provide training to appropriate contractor personnel. Track number of personnel trained.
Accomplishments	<ul style="list-style-type: none"> • All course training material has been up-dated / revised to reflect the current VDOT Road and Bridge Standards and Specifications. • 546 persons participated in the ESCCC class. • 443 participants received ESCCC certification.

BMP 4C(2)	Erosion Prevention and Sediment Control Training – Environmental Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Provide VDOT’s In Stream Maintenance Training to VDOT maintenance forces. ➤ <i>Measure:</i> Number of employees trained.
Milestone Yr 3	<ul style="list-style-type: none"> • Update/revise course material as necessary. • Provide training to appropriate VDOT personnel. Track number of personnel trained.
Accomplishments	<p>In-Stream Maintenance Materials – Course material updated and revised and now entitled “Environmental Compliance for Maintenance Activities”. 453 employees trained on these modules.</p> <p>Module 1 – Water Quality Permits – General overview of permit process and requirements.</p> <p>Module 2 –Water Quality Permit Compliance – Overview of permit conditions and actions to promote compliance.</p> <p>Module 3–Instream Managing the Water – Instream methods for working in-the-dry and information requirements for environmental review.</p> <p>Module 4 – Stabilizing the Stream – methods for stabilizing stream bed and banks and information requirements for environmental review.</p> <p>Module 5 –Plant, Fish and Wildlife – Overview of threatened and endangered species, wildlife corridors, trout, eagles and best management practices to minimize impacts.</p> <p>Module 6 –Special Conditions for Pipes and Culverts – Permit conditions for replacement and rehabilitation of pipes and culverts, such as countersinking, hydraulic opening, low flow channels, and maintaining aquatic life passage.</p> <p>Module 7 –Ditch Maintenance – Environmental coordination requirements and conditions for ditching in or near natural resources.</p> <p>Module 8 –Maintenance Disposal Areas – Site selection criteria, appropriate materials, and information requirements and agreements necessary for site clearance.</p> <p>Module 9 –Emergency Situations and Solutions –Review of environmental coordination and information requirements under emergency scenarios.</p> <p>Module 10 –Critical Habitat (Bristol District only) – Review of rivers and tributaries in Bristol District with Federal Critical Habitat designation and the permit requirements.</p> <p>Module 11 – Cultural Resources – Still under revision.</p> <p>Module 12 – MS4 Overview – Overview of MS4 program and VDOT’s MS4 Permit.</p>

BMP 4C(3)	Erosion Prevention and Sediment Control Training – Learning Center Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Ensure appropriate VDOT employees have necessary DCR Certifications. ➤ <i>Measure:</i> Number of employees certified through DCR as a RLD, ESC Inspector, Plan Reviewer, etc.

Milestone Yr 3	<ul style="list-style-type: none"> Track number of employees with DCR certifications and provide notification to those requiring recertification.
Accomplishments	<p>Listing of Certifications this permit cycle</p> <ul style="list-style-type: none"> ESC Inspector – 184 employees certified or renewed certification ESC Plan Reviewer – 7 employees certified ESC Combined Administrator – 11 employees certified Responsible Land Disturber – 13 employees certified or renewed

BMP 4D	Inspections and Quality Assurance Reviews – Construction Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Perform site inspections in accordance with VDOT’s annually Approved ESC and SWM Standards and Specifications. ➤ <i>Goal:</i> Perform project environmental compliance reviews. ➤ <i>Measure:</i> Total number of reviews performed. ➤ <i>Measure:</i> Our previous measurable goals were to rank as excellence, complaint, deficient, and non-complaint findings. Changes in CEADER now rank as compliant or non compliant
Milestone Yr 3	<ul style="list-style-type: none"> Perform site inspections and compliance reviews and track data in CEDAR
Accomplishments	<ul style="list-style-type: none"> Performed site inspections and compliance reviews and tracked data in CEDAR. Monitored the new Environmental Compliance review process at a program level to insure that reviews were being done and entered into CEDAR. Fully implemented the transition of the environmental reviews to the construction management staff. Performed 1,024 project compliance reviews with the following results: <ul style="list-style-type: none"> Compliant 99.2% Non-Compliant 0.8%

BMP 4E	Enforcement Process – Construction Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Review and revise/develop enforcement policies, procedures and penalties. ➤ <i>Measure:</i> Number of policies/procedures reviewed/revise/developed.
Milestone Yr 3	<ul style="list-style-type: none"> Review administrative process for enforcement procedures, penalties for violations and procedures for issuing stop-work orders and revise/develop as appropriate.
Accomplishments	<ul style="list-style-type: none"> Reviewed administrative process for enforcement procedures, penalties for violations and procedures for issuing stop-work orders and revised as appropriate. Continuously reviewed the Road and Bridge Specifications, Copied Notes, and Special Provisions that were included in our contracts and found that they were effective and no changes were needed.

BMP 4F	Procedures for receipt and consideration of information submitted by the public - Public Affairs Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Develop and implement procedures for the receipt and consideration of information submitted by the public concerning VDOT’s Stormwater Management Program. ➤ <i>Measure:</i> Establishment of a means for citizens to provide information to the Department concerning the Stormwater Management Program and creation of a process for addressing the information received. ➤ <i>Measure:</i> Number of comments received and actions taken.

Milestone Yr 3	<ul style="list-style-type: none"> • Maintain public comment page on VDOT SW website. • Address comments received.
Accomplishments	<ul style="list-style-type: none"> • VDOT currently maintains a MS4 email address on its SW website by which the public can submit comments. The language on the website informs the public that VDOT is willing to accept questions, comments, or concerns.

5	<u>Best Management Practices for Post Construction Runoff Program</u> <i>Develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre</i>
A	Guidance for post-construction runoff controls Continue to implement a comprehensive stormwater management program relative to the most recent approved version of the VDOT Erosion and Sediment Control Management standards and specifications.
B	Develop and implement strategies for post-construction runoff controls Develop and implement strategies, which include a combination of structural and non-structural best management practices and secure registration coverage for regulated land disturbing activities under the VSMP General Permit for Discharges of Stormwater from Construction Activities.
C	Provide Long-term operation and maintenance of controls Evaluate inspection requirement guidance for post-construction runoff control and related maintenance requirements and track VDOT owned and operated stormwater management facilities.

BMP 5A	Guidance for post-construction runoff controls - Location and Design Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Evaluate stormwater program guidance and update as appropriate ➤ <i>Measure:</i> Perform annual evaluation of guidance. ➤ <i>Measure:</i> Number of documents reviewed/revise.
Milestone Yr 3	<ul style="list-style-type: none"> • Review stormwater program guidance (Instructional & Informational Memoranda, Drainage Manual, standards, specifications, etc) and update as appropriate.
Accomplishments	<ul style="list-style-type: none"> • Reviewed stormwater program guidance documents and updated the following <ul style="list-style-type: none"> ➤ Rural Rustic Road Program Manual ➤ Maintenance Operation Guide for E&S control • Developing new Standard Details and Specifications for the following items: <ul style="list-style-type: none"> ➤ Gravel Bag Check Dam Type III ➤ Super Silt Fence ➤ Level Spreader. ➤ Temporary Wire Backed Silt Barrier ➤ Turbidity Curtain
BMP 5B	Develop and implement strategies for post-construction runoff controls – Location and Design Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Develop and promote the use of appropriate design tools and methodologies to meet the technical requirements for post construction runoff control. ➤ <i>Measure:</i> Number of design tools and procedures promoted/developed. ➤ <i>Goal:</i> Secure coverage for all regulated land disturbing activities under the VSMP General Permit for Discharges of Stormwater from Construction Activities. ➤ <i>Measure:</i> Number of projects registered for coverage. ➤ <i>Goal:</i> Encourage the use of Low Impact Development (LID) SWM practices where determined appropriate. ➤ <i>Measure:</i> Number of guidance documents revised to incorporate usage guidelines for LID SWM practices.

Milestone Yr 3	<ul style="list-style-type: none"> • Register all regulated land disturbing activities for VSMP Construction Permit coverage and track activities in a database. • Make appropriate SWM design tools and practices information available to District Offices and Central Office Staffs’ • Incorporate guidelines for usage of LID SWM practices into guidance documents.
Accomplishments	<ul style="list-style-type: none"> • 68 regulated land disturbing activities were registered for VSMP Construction Permit coverage and were tracked in the VDOT Construction Permit database. • SWM design tools and guidelines were made available to all the District Offices and Central Office staff. • Provided training on VSMP Regulations with a focus on Performance Based Criteria to 44 state wide personnel
BMP 5C	Provide Long-term operation and maintenance of controls – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Evaluate inspection and maintenance guidance/procedures and revise/update as appropriate. ➤ <i>Measure:</i> Evaluation and updating/revising of guidance documents. ➤ <i>Goal:</i> Update/develop/maintain a database of all known VDOT owned and operated structural stormwater management facilities. ➤ <i>Measure:</i> Update/creation of a database identifying the type of BMP, HUC, impaired water discharged to (if any) and number of acres treated by the facility. ➤ <i>Measure:</i> Number of SWM facilities entered into database. (Collected information will be provided in subsequent annual reports). ➤ <i>Goal:</i> Perform yearly inspection and required maintenance on stormwater management facilities. <p><i>Measure:</i> Number of facilities inspected.</p>
Milestone Yr 3	<ul style="list-style-type: none"> • Review inspection and maintenance guidance for structural stormwater management facilities and update/revise as appropriate. • Inventory – L&D Division will continue to maintain the pre-construction databases related to stormwater structures. Maintenance Division will continue field verification of existing stormwater structures. • GIS Database – See BMP 3 C for milestones related to the procurement, modification and implementation of NPDES/MS4 Program software. • Perform inspections and required maintenance on stormwater management facilities.
Accomplishments	<ul style="list-style-type: none"> • VDOT has updated its Maintenance SWM database to include all SWM facilities within the urbanized areas of Northern Virginia, Richmond, Fredericksburg, and Hampton Roads District. In the future, VDOT plans to update its SWM database to include all BMPs in the 13 urbanized areas within Virginia and the Chesapeake Bay watershed. • A revised inspection form for the detention/retention basins was implemented this year. The form took the twenty-eight considerations that were previously graded and regrouped so that only seven areas that will be graded. For example all inspection questions for the embankment are grouped together and an overall ranking is given for the embankment. The Overall Ranking procedure of the facility remained the same as with the previous inspection system. The stormwater facility is given a ranking of; “A” No problems observed, “B” Minor problems are observed, “C” Moderate problems are observed, “D” Major problems are observed or an “E” Severe problems are observed, and basin is not functioning as designed. • A new Inventory/Inspection/GIS database was implemented this year which worked in conjunction with the revised inspection form. VDOT’s MS4 consultant has been tasked with developing a Stormwater Management Facilities Inspection and Maintenance Manual that will be based on information in the Inventory/Inspection/GIS database, Virginia Stormwater BMP Clearinghouse and the revised Virginia Stormwater Management Handbook.

	<ul style="list-style-type: none"> • All districts have completed their annual inspection schedule. • VDOT has updated its Location and Design SWM database to include a majority of the SWM facilities located within the urbanized areas of Northern Virginia, Richmond, Fredericksburg, and Hampton Roads District. In the future, VDOT plans to update its Location and Design SWM database to include all BMPs in all 13 urbanized areas within Virginia and the Chesapeake Bay watershed. A Maintenance Division unique BMP ID # was also included in the Location and Design SWM database to provide a linkage between the Maintenance SWM database and the Location and Design SWM database. <p style="text-align: center;">Attachment # 4 for the inventory of stormwater facilities within Census Urban Areas</p>
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6	<p style="text-align: center;">Best Management Practices for Pollution Prevention and Good Housekeeping</p> <p><i>Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations, such as asset management activities, fleet and building maintenance, new construction, and stormwater system maintenance</i></p>
A	<p>Implement program to prevent/reduce pollution runoff</p> <p>Existing procedures for nutrient management application will be reviewed and revised (if applicable) in an effort to minimize the discharge of pollutants. The procedures will also be reviewed to ensure that these activities are performed under, and in accordance with, any appropriate permit conditions.</p>
B	<p>Implement operation procedures, maintenance schedules, and long-term inspection procedures to reduce pollutant discharges</p> <p>Operation and maintenance programs will continue to be implemented and revised as necessary to ensure that these activities are performed under, and in accordance with, any appropriate permit conditions.</p>
C	<p>Implement a program to reduce/eliminate discharges of pollutants and promote the proper disposal of waste</p> <p>Existing procedures for waste disposal will be reviewed and revised (if applicable) in an effort to minimize the discharge of pollutants. The procedures will also be reviewed to ensure that these activities are performed under, and in accordance with, any appropriate permit conditions.</p>
D	<p>Employee pollution prevention education</p> <p>Employee education will be provided to help minimize storm water pollution potential from land disturbance activities, fleet storage areas, building sites, parking areas and maintenance yards.</p>

BMP 6A	Implement program to prevent/reduce pollution runoff – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Complete the approval process for a revised nutrient management strategy for land disturbance activities and implement on all maintenance and construction activities ➤ <i>Measure:</i> Number of acres of land disturbance on which the revised nutrient management strategy is implemented under the VSMP Construction Permit Program.
Milestone Yr 3	<ul style="list-style-type: none"> • Incorporate NMP requirements on all maintenance and construction activities and track acreage through VSMP Construction Permit Program.
Accomplishments	<ul style="list-style-type: none"> • Revised NMP are being developed for all Rest Areas/Welcome Centers and all other fixed facilities maintained by VDOT that plan to apply fertilizer to the turf or plant beds. Soil samples are being taken and the NMP for each site will be developed based on the nutrient and liming recommendations included in the soil test reports. The NMP's will be completed in time for application of fertilizer this fall in the cool season turf areas. The NMP's will be valid for three years from the date of approval.

	<ul style="list-style-type: none"> • Many of the construction and maintenance projects that are now under construction in the bidding process were engineered prior to the NMP. Therefore, it is difficult to use the number of acres of land disturbance under the VSMP Construction Permit Program to determine the number of acres where the NMP was applied. • The change in 2007 specification SECTION 603—SEEDING reduced the rate of fertilization to of 300 pounds of 15-30-15 fertilizer per acre (approximately 45 pounds of N, 90 pounds of P and 45 pounds of K per acre) and two tons of lime. Under the revised NMP guidelines a soil test that has a P value in the range of M- or L+ would require this level of fertilization. W. Lee Daniels from Virginia Tech’s Crop and Soil Environmental Sciences department believes that most of the exposed subsoil on VDOT’s cut and fill slopes will have test values in the L of L-range. The NMP recommendations for fertilization for a P level of L or L- is 45 pounds of N, 170 pounds of P and 90 pounds of K per acre.
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BMP 6B	Implement operation procedures, maintenance schedules, and long-term inspection procedures to reduce pollutant discharges – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ Goal: Review and revise as necessary the compliance procedures for maintenance activities. ➤ Measure: Completion of review and update of procedures (if applicable). ➤ Goal: Perform maintenance activities such as animal carcass removal and disposal, street cleaning, etc. to minimize/eliminate potential sources of stormwater pollution. ➤ Measure: Measure and report maintenance activities that contribute to good housekeeping. ➤ Goal: Continue to implement procedures and training that will encourage employees and contractors to employ pollution and prevention practices in day-to-day operations ➤ Measure: Number of guidance documents revised and number personnel trained.
Milestone Yr 3	<ul style="list-style-type: none"> • Conduct annual review of Maintenance Best Management Procedures, environmental guidance and equipment/facilities operation procedures to incorporate pollution prevention through good housekeeping. • Revise, as necessary, the listing of Maintenance Activity Codes and FMIS cost centers to determine appropriate good housekeeping maintenance activities and produce annual report. • Require employees and contractors to employ pollution prevention practices in day-to-day operations and develop a plan to implement any revised guidance and procedures.
Accomplishments	<ul style="list-style-type: none"> ➤ VDOT’s MS4 consultant completed the review of the Maintenance Best Practices manual and has made recommendations for updating the manual to fully incorporate the MS4 BMP objectives. The MS4 changes will be incorporated to the manual , which is currently undergoing a complete revision. ➤ The following maintenance activities that contribute to good housekeeping on the secondary and primary highways were reported through the Work Accomplishment system for FY 11. The totals are for the entire state since no coding is available for only the MS4 permit areas. The maintenance activities reported do not include the maintenance requirements for the TAMS contractors that maintain the interstates; therefore no individual maintenance activities are available for the interstates. <ul style="list-style-type: none"> • Small and large debris removal. Rock fall cleanup or slide removal. Removal of trees, buildings, mud, sand, slide, as a result of a storm. Debris resulting from any maintenance work that is hauled off site. Unit of measure is cubic yard (CY) and a total of 10,089,280 units were reported. • Litter patrol and litter pick-up. Unit of measure is acre (AC) and a total of 34,932 units were reported. The revised mowing standards resulted in a large reduction in acres mowed and accompanying litter pick-up. • Rebuild and stabilize slopes (alongside the roadway or at bridge sites) or drainage

	<p>assets (e.g. paved or unpaved ditches, drop inlets, curb and gutter) to restore proper flow of water away from pavement or bridges. This includes repairing slopes. Unit of measure is cubic foot (CF) and a total of 770,451 units were reported.</p> <ul style="list-style-type: none"> • Hand cleaning of drainage assets, traffic control devices, shoulders, tunnels, ferries, etc. Cleaning with manual tools (shovels, pickaxes, etc.). Cleaning without the use of machinery. Unit of measure is linear foot (LF) and a total of 3,002,189 units were reported. • Machine cleaning or sweeping of drainage assets such as pipes, ditches etc.; tunnels; roadside assets such as sidewalks, truck ramps, pedestrian trails, walls etc.; traffic assets such as rumble strips; pavement assets including roads, and paved shoulders etc. Also to be used for cleaning when using pressurized water such as power washing. Unit of measure is linear foot (LF) and a total of 61,564,774 units were reported. • Cleaning and/or flushing of bridge deck, superstructure and substructure elements, pipes box culverts; tunnels and ferries. Unit of measure is each (EA) and a total of 8,027 units were reported. • Graffiti removal by any means, including but not limited to by hand or mechanical means. Unit of measure is each (EA) and a total of 165 units were reported. • The cost of deal animal collection and proper disposal is tracked through cost center 116019 and a total of \$3,991,512 was charged to this cost center. • Adopt-A-Highway reported that 4,954 (CY) of material was cleaned from the roadsides.
BMP 6C	Implement a program to reduce/eliminate discharges of pollutants and promote the proper disposal of waste – Maintenance Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ Goal: Annually evaluate the Department’s waste management program and revise waste disposal processes and procedures as necessary. ➤ Measure: Annual review of waste management program and number of waste disposal processes or procedures revised. ➤ Goal: Ensure proper disposal of wastes from construction and maintenance activities in accordance with the DCR approved VDOT Erosion and Sediment Control and Stormwater Management Standards and Specifications and memorandum of agreement with DEQ through environmental compliance reviews. ➤ Measure: Total number of reviews performed. ➤ Measure: Percentage of environmental reviews resulting in excellence, compliant, deficient, and non-complaint findings. ➤ Goal: Develop/revise protocols and tracking procedure for performing environmental compliance assessments of Maintenance Facilities. Perform annual reviews. ➤ Measure: Development of protocols and tracking system. ➤ Measure: Total number of reviews performed. ➤ Measure: Percentage of environmental reviews resulting in excellence, compliant, deficient, and non-compliant findings.
Milestone Yr 3	<ul style="list-style-type: none"> • Evaluate all current waste disposal policies, procedures and processes and revise as necessary. • Perform environmental compliance reviews of waste disposal sites for construction and maintenance activities to ensure that disposal is in accordance with the DCR approved VDOT Erosion and Sediment Control and Stormwater Management Standards and Specifications and memorandum of agreement with DEQ. • Perform environmental compliance assessments of Maintenance Facilities.

Accomplishments	<ul style="list-style-type: none"> • As part of another MS4 task to address TMDL requirements, VDOT reviewed several policies and other procedures that have the ability to reduce pollutants within the MS4 discharge. Information obtained from this task is being utilized for this BMP as well. • A Memorandum of Agreement (MOA) between the Virginia Department of Environmental Quality and Virginia Department of Transportation on solid waste was signed by both parties in December 2009. During the past year the MOA, and a VDOT-VDEQ Waste MOA Implementation Guide was communicated to the Maintenance staff and a link placed as on the Transportation Maintenance and Operations Committee (TMOC) Team Site. The MOA covers non-inert debris; animal carcasses and vegetative waste, and inert debris.

BMP 6D	Employee pollution prevention education - Environmental Lead Division
Measurable Goal(s)	<ul style="list-style-type: none"> ➤ <i>Goal:</i> Develop/revise/implement training courses for employees that promote a general awareness of stormwater management and pollution prevention. ➤ <i>Measure:</i> Number of courses developed/revise and number of employees trained. ➤ <i>Goal:</i> Provide Waste Management, Advance Hazardous Waste Management, In-Stream Maintenance Activities, USDOT Hazardous Shipping, Spill Prevention Control and Countermeasure (SPCC), and VDACS Pesticide Applicator Certification training. ➤ <i>Measure:</i> Number of employees trained. ➤ <i>Goal:</i> Develop/revise/implement training courses for Cleaning Asphalt Equipment and Salt Pond Management. ➤ <i>Measure:</i> Number of courses developed/revise and number of employees and contractors trained.
Milestone Yr 3	<ul style="list-style-type: none"> • Provide training for employees that promotes a general awareness of stormwater management and pollution prevention. • Provide Cleaning Asphalt Equipment and Salt Pond Management training to appropriate employees. • Provide Waste Management, Advance Hazardous Waste Management, In-Stream Maintenance Activities, USDOT Hazardous Shipping, SPCC, and VDACS Pesticide Applicator Certification training on an as needed basis.
Accomplishments	<ul style="list-style-type: none"> • General Awareness – Natural Resources Workshop – 31 Employees trained. • Waste Management – 161 employees trained. • In-Stream Maintenance Activities – See Accomplishments listed in 4C(2). • USDOT Hazardous Materials Transportation – 3 employees trained. • Spill Prevention Control and Countermeasures (SPCC) Refresher – 406 employees trained. • Asphalt Equipment Cleaning – 19 employees trained. • Salt Pond Management – 20 employees trained.

Attachments

Attachment # 1 TMDLs approved prior to 7/1/08 with WLA

Approved TMDL	Approval Date	Pollutant of Concern	TMDL Size (sq. mi.)**	Urban Area Size (sq. mi.)
Stroubles Creek Watershed	6/17/2004	Sediment	9.5	7.2
Goose Creek and Little River Watersheds	8/31/2004	Sediment	386.5	12.9
Crab Creek Watershed	12/2/2004	E. Coli & General Quality	19.8	7.5
Upper Roanoke River Watershed	9/7/2006	E. Coli & Sediment	571.2	116.0
Opequon and Abrams Creek Watersheds, Aquatic Life	6/28/2005	E. Coli & Sediment	146.6	30.8
Bull Run	6/27/2007	Sediment	193.9	86.7
Popes Head Creek	6/27/2007	Sediment	18.9	13.4
Potomac River Watershed PCB*	4/11/2008	PCBs	1561.25	451.1
<i>Notes:</i>				
<i>* The Potomac River Watershed PCB has not identified a WLA for MS4 permits but includes a statement that MS4s are expected to complete any appropriate study and implement any minimum control measures for the PCB impairment</i>				
<i>** The drainage areas calculated for each TMDL have not been verified by DEQ or DCR for consistency with the respective TMDL.</i>				

Attachment # 2 Stroubles Creek / Crab Creek Watershed Study

- Stroubles Creek Watershed Study completed (using Spreadsheet Tool for Estimating Pollutant Load – STEPL).
- An aggregated wasteload allocation (WLA) of 211 tons of sediment/year was assigned to three permitted small municipal separate storm sewer systems (MS4s), including VDOT’s MS4 Permit # VAR040115.
- Total VDOT Right-of-Way Contributing Area (Rt. 460 and Merrimac Road) draining to impaired segment = 53.7 acres.
- No VDOT facilities located within the watershed.
- VDOT used the Spreadsheet Tool for Estimating Pollutant Load (STEPL) model developed by EPA to perform the annual characterization. The STEPL model is capable of calculating both the annual stormwater discharge as well as the sediment loading in a user-friendly interface utilizing Microsoft© Excel.
- The STEPL model calculated the stormwater discharge from VDOT’s property within the Stroubles Creek watershed for 2010 to be 3,016,507 cubic feet and the estimated sediment load to be 16.68 tons/yr. Table 1 below summarizes the annual stormwater characterization for 2010.

Table 1. Annual Characterization of VDOT Properties within Stroubles Creek Watershed

VDOT ROW within Stroubles Creek watershed	VDOT Contributing Area ¹ (ac)	Stormwater Discharge (cu ft)	Sediment Load (tons/yr)
U.S. Route 460	44.1	2,385,367	13.2
State Route 657 (Merrimac Road)	9.6	631,140	3.48
Total VDOT ROW	53.7	3,016,507	16.68

Note: Contributing areas excludes potential areas that may drain onto VDOT right-of-way from adjacent properties

- There were no existing BMPs within the study area of this project that could be incorporated into the model.
- VDOT identified one regulated outfall located within the VDOT Right-of Way in the TMDL watershed.
- VDOT’s only property within the TMDL watershed is roadway right of way. Therefore, sampling of a representative outfall is not applicable and is not required by the MS4 Permit.
- VDOT developed a technical awareness module specifically geared towards the Stroubles Creek TMDL to cover specific methods and techniques to identify sources and eliminate and reduce discharges of sediment in the Stroubles Creek area. Module will be presented to staff in Yr 4.
- VDOT will develop and implement a schedule of BMPS through an iterative process, beginning with Public Education and Employee Awareness Campaigns.
- Crab Creek Watershed Study completed.
- An aggregated WLA of 28 tons of sediment/year and 3.40×10^8 cf/year was assigned to two permitted small municipal separate storm sewer systems (MS4s), including VDOT’s MS4 Permit # VAR040115.

- Total VDOT Right-of-Way and Property Contributing Area draining to impaired segment = 162.1 acres.
- VDOT utilized the Watershed Treatment Model (WTM) model developed by the Center for Watershed Protection (CWP). VDOT used readily available spatial information provided by the Natural Resources Conservation Service (NRCS) in conjunction with specific VDOT information to generate the necessary data inputs for WTM.
- The WTM estimates an annual volume for 2010 of stormwater discharged at 8,363,692 cubic feet, a sediment load of 13.9 tons, and a bacteria load of 4.75×10^{13} cf. Table 2 summarizes the annual stormwater characterization for 2010.

Table 2. Annual Characterization of VDOT Properties within Crab Creek Watershed

VDOT ROW within Crab Creek watershed	VDOT Contributing Area ¹ (ac)	Stormwater Discharge (cubic ft)	Sediment Load (tons/yr)	Bacteria Load (MPN/yr)
ROW along Roadways	152.87	7,868,747	13.00	4.47×10^{13}
Christiansburg Residency	9.25	494,945	0.85	2.81×10^{12}
Total VDOT ROW	162.1	8,363,692	13.9	4.75×10^{13}

Note:

1: Contributing areas excludes potential stormwater run-on that may result from adjacent properties.

VDOT identified seven regulated outfalls in the Crab Creek TMDL watershed, and performed an initial outfall reconnaissance using outfall inventory and IDDE forms previously developed by VDOT.

To enhance the outfall reconnaissance program, VDOT developed a draft Outfall Reconnaissance Inventory Manual and a draft Illicit Discharge Detection and Elimination (IDDE) Manual.

VDOT owns and operates one stormwater facility, an extended detention basin, within the Crab Creek TMDL watershed.

VDOT developed a technical awareness module specifically geared towards the Crab Creek TMDL to cover specific methods and techniques to identify sources and eliminate and reduce discharges of sediment and bacteria. Module will be presented to staff in Yr 4.

VDOT evaluated all properties that it currently owns or operates in the Crab Creek TMDL watershed, and determined that sediment and other erodible materials have been historically handled at the Christiansburg Residency. The remaining VDOT property within the TMDL watershed is all roadway right-of-way. The Christiansburg Residency property is not drained by a regulated outfall; therefore, sampling is not applicable and not required by the MS4 Permit.

VDOT will develop and implement a schedule of BMPS through an iterative process, beginning with Public Education and Employee Awareness Campaigns.

Attachment # 3 Net Targets and Outfalls recorded in CUA

The USACE, Baltimore and Wilmington, has reported the completion for the 2009-2010 permit year of outfall inventories in the watersheds as shown in the tables below. During the 2010-2011 permit year the outfall inventory/assessments will be completed, a quality acceptance review will be completed, the final outfall database and GIS layers delivered.

The targets assigned to the USACE represent 21% of the total net targets for the state, completion of four Census Urban Areas, and 25% of the net targets in Northern Virginia. The desire is to continue to use the USACE districts in Baltimore and Wilmington to complete the outfall inventory and assessment for the Census Urban Areas in their Districts as soon as they are able to budget the matching funds (Project cost are split 50/50). Discussions will also be initiated with the Norfolk District of the USACE for the Charlottesville, Richmond, Virginia Beach and Fredericksburg Census Urban Areas.

<u>Watershed</u>	<u>HUC 6</u>	<u>Targets</u>	<u>Total Outfalls at end of Year 2</u>	<u>Targets</u>	<u>Total Outfalls at end of Year 3</u>
Accotink Creek	PL30	315	320	353	363
Broad Run-Lenah Run	PL17	6	NA	6	7
Broad Run-Rocky Branch	PL34	172	NA	191	5
Cameron Run	PL26	307	NA	348	71
Northern Virginia	PL45	371	353	417	409
Difficult Run	PL22	305	NA	336	2
Goose Creek – Big Branch	PL14	6	NA	7	0
Goose Creek – Cattail Branch	PL16	54	62	56	64
Lower Bull Run	PL46	188	232	200	232
Middle Bull Run	PL44	94	67	99	67
Neabsco Creek	PL49	263	NA	277	4
Occoquan River-Belmont Bay	PL48	90	NA	97	10
Pohick Creek	PL29	226	NA	243	15
Powells Creek	PL51	67	NA	75	81
Potomac River – Fourmile Run	PL25	65	43	69	59
Potomac River – Limestone Branch	PL 05	7	14	7	14
Quantico Creek	PL52	87	NA	98	4
Total Northern Virginia		2,623	1,091	2,879	1,407
Total Increase for Northern Virginia Year 2 to Year 3				256	316

Targets assigned in Year 2 (1532) and Year 3 (750) represent 57% of the total net targets in Northern Virginia

The desire is to continue to use the USACE districts in Baltimore, Norfolk and Wilmington to complete the outfall inventory and assessment for the Census Urban Areas in their Districts as soon as they are able to budget the matching funds (Project cost are split 50/50). A total of 623 outfalls were inventoried in Permit Year 3 in the Census Urban Areas listed below.

Winchester Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Net Targets</u>	<u>Outfalls</u>	<u>Net Targets</u>	<u>Outfalls</u>
Opequon Creek – Sulphur Spring Run	PU 16	150	147	165	158
Opequon Creek – Redbud Run	PU 18	27	20	31	20
Abrams	PU 17	75	76	81	86
Crooked Run	PS 79	25	52	26	54
Hogue Creek	PU 12	19	11	21	11
Total Winchester		296	306	324	329
Total Increase for Winchester Year 2 to Year 3				28	23

The assigned targets represent 100% of the targets for Winchester. The OA/QC process is now being completed to ensure that 100% of assigned targets have been reviewed for outfalls. The QA/QC will be complete in Permit Year 4.

Roanoke Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Targets</u>	<u>Outfalls</u>	<u>Targets</u>	<u>Outfalls</u>
Roanoke River – Sawmill Hallow	RU 09	77	60	84	65
Mason Creek	RU 10	12	12	12	12
Tinker Creek – Buffalo Creek	RU 11	116	102	120	102
Carvin Creek	RU 12	100	63	104	64
Tinker Creek – Glade Creek	RU 13	182	180	197	203
Roanoke River – Peters Creek	RU 14	214	208	243	224
Back Creek	RU 15	50	51	56	54
Roanoke River / SML / Lynville Creek	RU 16	14	10	16	12
Goose Creek – North Fork Goose Creek	RU 39	4	5	4	5
Total Roanoke		769	691	836	741
Total Increase for Roanoke Year 2 to Year 3					50

The assigned targets represent 100% of the targets for Roanoke. The OA/QC process is now being completed to ensure that 100% of assigned targets have been reviewed for outfalls. The QA/QC will be complete in Permit Year 4.

Blacksburg Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Targets</u>	<u>Outfalls</u>	<u>Targets</u>	<u>Outfalls</u>
Crab Creek	NE 58	11	4	12	4
New River-Stroubles Creek	NE 59	29	17	29	17
Toms Creek – Poverty Creek	NE 60	14	8	14	8
South Fork Roanoke River - Brake Branch	RU 05	1	0	1	0
North Fork Roanoke River- Dry Run	RU 06	10	7	12	8
North Fork Roanoke River- Wilson Creek	RU 07	14	2	14	2
Total Blacksburg		79	38	82	39
Total Increase for Blacksburg Year 2 to Year 3					1

The assigned targets represent 100% of the targets for Blacksburg. The OA/QC process is now being completed to ensure that 100% of assigned targets have been reviewed for outfalls. The QA/QC will be complete in Permit Year 4.

Danville Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Targets</u>	<u>Outfalls</u>	<u>Targets</u>	<u>Outfalls</u>
Dan River – Danville	RD 33	9	8	9	8
Lower Sandy River	RD 36	6	3	6	3
Dan River – Sandy Creek (West)	RD 37	13	22	14	23
Fall Creek	RD 38	15	16	17	17
Dan River – Pumpkin Creek	RD 39	46	32	46	32
Total Danville		89	81	92	83
Total Increase for Danville Year 2 to Year 3					2

The assigned targets represent 100% of the targets for Danville. The OA/QC process is now being completed to ensure that 100% of assigned targets have been reviewed for outfalls. The QA/QC will be complete in Permit Year 4.

Bristol Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Targets</u>	<u>Outfalls</u>	<u>Targets</u>	<u>Outfalls</u>
Beaver Creek-Little Creek	TH21	67	NA	74	80
Beaver Creek-Steele Creek	TH22	30	NA	37	29
South Fork Holston River- Beidleman Creek	TH20	20	NA	20	23
Total Bristol		117		131	132

The assigned targets in Year 3 represent 100% of the targets for Bristol. The OA/QC process is now being completed to ensure that 100% of assigned targets have been reviewed for outfalls. The QA/QC will be complete in Permit Year 4.

Kingsport Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Targets</u>	<u>Outfalls</u>	<u>Targets</u>	<u>Outfalls</u>
Big Moccasin Creek-Little Moccasin Creek	TH43	17	NA	20	24
North Fork Holston River- Newland Hollow	TH45	52	NA	55	67
Possum Creek	TH44	7	NA	7	6
Reedy Creek	TH23	1	NA	1	2
Total Kingsport		77		83	99

The assigned targets in Year 3 represent 100% of the targets for Kingsport. The OA/QC process is now being completed to ensure that 100% of assigned targets have been reviewed for outfalls. The QA/QC will be complete in Permit Year 4.

Lynchburg Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Targets</u>	<u>Outfalls</u>	<u>Targets</u>	<u>Outfalls</u>
Blackwater Creek	JM10	49	NA	51	49
Harris Creek	JM08	21	NA	22	16
Ivy Creek-Cheese Creek	JM09	11	NA	11	13
James River-Opossum Creek	JM11	43	NA	51	41
James River-Stonewall Creek	JM14	12	NA	12	36
Rutledge Creek	JM30	10	NA	10	2
Buffalo Creek	RU56	42	NA	42	58
Elk Creek-Chesnut Branch	RU51	3	NA	3	0
Flat Creek	RU58	22	NA	24	15
Total Lynchburg		213		226	230

The assigned targets in Year 3 represent 100% of the targets for Lynchburg. The OA/QC process is now being completed to ensure that 100% of assigned targets have been reviewed for outfalls. The QA/QC will be complete in Permit Year 4.

Charlottesville Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Targets</u>	<u>Outfalls</u>	<u>Targets</u>	<u>Outfalls</u>
Ivy Creek-Little Ivy Creek	JR07	11	NA	14	8
Moore's Creek	JR15	78	NA	81	89
North Fork Rivanna River-Jacobs Run	JR11	28	NA	31	36
Rivanna River-Carroll Creek	JR17	19	NA	22	33
Rivanna River-Meadow Creek	JR14	46	NA	49	73
South Fork Rivanna River	JR08	73	NA	79	129
Total Charlottesville		255		276	368

The assigned targets in Year 3 represent 100% of the targets for Charlottesville. The OA/QC process is now being completed to ensure that 100% of assigned targets have been reviewed for outfalls. The QA/QC will be complete in Permit Year 4.

Richmond Virginia					
<u>Watershed</u>		<u>Year 2</u>		<u>Year 3</u>	
		<u>Targets</u>	<u>Outfalls</u>	<u>Targets</u>	<u>Outfalls</u>
Falling Creek*	JL02	470	NA	514	16
James River-Bernards Creek	JM83	48	NA	56	79
James River-East Branch Tuckahoe Creek	JM85	16	NA	20	38
James River-Little Westham Creek	JM86	149	NA	171	83
Tuckahoe Creek	JM84	74	NA	84	0
Total Richmond		287	0	331	216

* HUC 6 watershed has not been assigned but some targets completed because of their close proximity to assigned targets.

The assigned targets in Year 3 represent 16% of the targets for Richmond. The outfall survey process is now being completed. The outfall survey and QA/QC will be complete in Permit Year 4.

Attachment # 4 TMDLs within the MS4 areas identified for this permit year (7/1/2010- 6/30/2011)

TMDL Project	Basin	City/County	VAH U6 Watershed	Urbanized Area	Co-contributors in Waste Load Allocations	Existing Waste Load	VDOT's Waste Load Allocation	Comments
Stroubles Creek Watershed	New River	Montgomery	NE59	Blacksburg	Blacksburg, Virginia Tech	421.77	210.88	
Crab Creek Watershed	New River	Montgomery	NE58	Blacksburg	Christiansburg	55.14	3.40E+08 /yr 27.57	VDOT-Salem District Rte 81 0081-060-119-C501 (Var100229) and VDOT-Christiansburg 4541 (VAR101126) had stormwater construction permits. VDOT had an MS-4 permit (VAR04006)
Upper Roanoke River Watershed	Roanoke River	Montgomery, Bedford, Roanoke, Franklin, Salem	RU01-14	Roanoke	N/A	Not identified	27 (tons/year), 4 (tons/year)	VDOT Roanoke Urban Area MS4 Permit VAR040017 & VDOT Montgomery Urban Area MS4 Permit VAR040016
Upper Roanoke River Watershed	Roanoke River	Montgomery, Bedford, Roanoke, Franklin, Salem	RU01-15	Roanoke	N/A	2.34 +11 (Wilson Cr) 8.70E+10 (Ore Br.) 8.94E+11 (Roanoke R.)	1.17E+09 (Wilson Cr) 4.35E+08 (Ore Br.) 1.07E+10 (Roanoke R.)	VDOT Montgomery County Urban Area (VAR 040016) and VDOT City of Roanoke Urban Area (VAR 040017) MS-4 Permits

Opequon and Abrams Creek Watersheds, Aquatic Life	Shenandoah River	Frederick, Winchester	PU16-19	Winchester	City of Winchester	527.0 (tons/yr) (Abrams C.) 336.3 (tons/yr) (Opequon C.)	442.7 (Abrams C.)	269.2 (Opequon)	VDOT Permit VAR040032 (Winchester Urban Area)
Opequon and Abrams Creek Watersheds, Bacteria	Shenandoah River	Frederick, Winchester	PU16-19	Winchester	City of Winchester	451 +12	19.4 +12		
Bull Run	Potomac River	Fairfax, Prince William	PL42-46	Washington	City of Fairfax, Fairfax County, Fairfax County Public Schools, Loudoun County, Manassas, NOVA Manassas Campus, Manassas Park, Prince William County, Prince William County Public Schools	25,476.5 tons/yr	5,823.4 tons/yr		VDOT Urban Area has MS-4 Permits (VAR 040062)

Popes Head Creek	Potomac River	Fairfax	PL46	Washington	Fairfax County, Fairfax County Public Schools, City of Fairfax	2,193.2 (tons/year)	1,584.7 (tons/year)	VDOT Urban Areas (VAR040062) Fairfax County and City of Fairfax have MS-4 Permits
Potomac River Watershed PCB	Potomac River	Virginia, Maryland, Washington D.C.	CB-01, PL24-74	Washington	MS4 must individually implement BMP	N/A	Best Management Practices (BMPs) rather than as numeric effluent limits	Report mentions MS-4 Permits (VAR040062 & VAR040061)
Goose Creek and Little River Watersheds	Potomac River	Loudoun	PL06-16	Washington	Leesburg, Loudoun County	Not identified	1587.2 tons/yr	VDOT-Northern has a MS-4 Permit, Erosion & Sediment <small>Outside</small> MS-4s VDOT has two permits (0733-053-P31-C502) and (0015-053-125PE101-C501)

Attachment # 5 TMDLs approved by the SWCB between 07/01/10 and 06/30/11 with a WLA

TMDL Project	SWCB approval date	Basin	City/County	VAHU6 Watershed	Urbanized Area	Pollutant(s)	Co-contributors in Waste Load Allocations	Existing Waste Load	VDOT's Waste Load Allocation	Comments
Tidal Four Mile Run Watershed	09/30/10	Potomac River	Alexandria, Arlington	A12E	Washington	Bacteria	Arlington County, City of Alexandria, George Washington Memorial Parkway		3.76 E + 13	VDOT-North Urban Area has a MS-4 Permit (VAR 040062)

Attachment # 6 Inventory of stormwater facilities within Census Urban Areas:

Census Urban Area	Number of Facilities Reported Based on Maintenance Data (Table 6 A)	Number of Facilities Reported Based on L&D Data (Table 6 B)	Total Facilities
Blacksburg, VA	14	0	14
Bristol, TN—Bristol, VA	4	0	4
Charlottesville, VA	9	0	9
Danville, VA	10	0	10
Fredericksburg, VA	4	23	27
Harrisonburg, VA	1	0	1
Kingsport, TN--VA	4	0	4
Lynchburg, VA	18	0	18
Richmond, VA	4	85	89
Roanoke, VA	8	0	8
Virginia Beach, VA	11	74	85
Washington, DC - VA -MD	26	286	312
Winchester, VA	15	0	15
Total	128	468	596

Table 6 A - Facilities Reported Based on Maintenance Database.

Blacksburg , VA		CUA Total Facilities		14
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
NE58	Crab Creek			1
		Detention	1	
NE59	NewRiver-Stroubles Creek			2
		Detention	2	
RU04	Elliott Creek			3
		Detention	3	
RU07	North Fork Roanoke River-Wilson Creek			8
		Detention	8	
Bristol , VA		CUA Total Facilities		4
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
TH21	Beaver Creek-Little Creek			3
		Detention	3	
TH22	Beaver Creek-Steele Creek			1
		Detention	1	

Charlottesville , VA		CUA Total Facilities		9
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
JR07	Ivy Creek-Little Ivy Creek			1
		Pipe Detention	1	
JR08	South Fork Rivanna River			1
		Detention	1	
JR11	North Fork Rivanna River-Jacobs Run			1
		Detention	1	
JR14	Rivanna River-Meadow Creek			1
		Pipe Detention	1	
JR15	Moores Creek			5
		Detention	5	
Danville , VA		CUA Total Facilities		10
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
RD33	Dan River-Danville			2
		Detention	2	
RD36	Lower Sandy River			2
		Detention	2	
RD37	Dan River-Sandy Creek (West)			3
		Detention	3	
RD38	Fall Creek			3
		Detention	3	
Fredericksburg , VA		CUA Total Facilities		4
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
RA46	Rappahannock River-Hazel Run			3
		Detention	3	
RA47	Massaponax Creek			1
		Other	1	
Harrisonburg, VA		CUA Total Facilities		1
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
PS23	Cooks Creek			1
		Detention	1	

Kingsport, TN-VA		CUA Total Facilities		4
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
TH43	Big Moccasin Creek-Little Moccasin Creek			2
		Detention	1	
TH45	North Fork Holston River-Newland Hollow			2
		Detention	2	
Lynchburg, VA		CUA Total Facilities		18
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
JM09	Ivy Creek-Cheese Creek			5
		Detention	2	
		Pipe Detention	2	
		Retention	1	
JM10	Blackwater Creek			8
		Detention	7	
		Pipe Detention	1	
JM11	James River-Opossum Creek			4
		Detention	4	
JM14	James River-Stonewall Creek			1
		Detention	1	
Richmond, VA		CUA Total Facilities		4
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
JA45	Appomattox River-Ashton Creek			1
		Detention	1	
JL02	Falling Creek			1
		Detention	1	
JA45	Appomattox River-Ashton Creek			1
		Detention	1	
JM84	Tuckahoe Creek			1
		Detention	1	

Roanoke, VA		CUA Total Facilities		8
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
RU10	Mason Creek			1
		Detention	1	
RU11	Tinker Creek-Buffalo Creek			4
		Detention	4	
RU12	Carvin Creek			1
		Detention	1	
RU13	Tinker Creek-Glade Creek			1
		Detention	1	
RU14	Roanoke River-Peters Creek			1
		Detention	1	
Virginia Beach, VA		CUA Total Facilities		11
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
CB23	Southwest Branch Back River			1
		Detention	1	
JL54	Eastern Branch Elizabeth River			1
		Detention	1	
JL55	Western Branch Elizabeth River			5
		Detention	5	
JL56	Elizabeth River			2
		Detention	2	
YO69	York River-Sarah Creek			2
		Detention	1	
		Retention	1	

Washington, DC-VA-MD		CUA Total Facilities		26
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
PL20	Potomac River-Selden Island			1
		Pipe Detention	1	
PL21	Sugarland Run			1
		Detention	1	
PL24	Potomac River-Pimmit Run			1
		Detention	1	
PL26	Cameron Run			3
		Detention	2	
		Sand Filter	1	
PL29	Pohick Creek			1
		Detention	1	
PL30	Accotink Creek			2
		Detention	1	
		Retention	1	
PL41	Occoquan River-Occoquan Reservoir-Lake Jackson			1
		Detention	1	
PL45	Cub Run			2
		Detention	1	
		Retention	1	
PL47	Occoquan River/Occoquan Reservoir			3
		Detention	3	
PL49	Neabsco Creek			1
		Detention	1	
PL50	Potomac River-Occoquan Bay			1
		Detention	1	
PL56	Upper Aquia Creek			4
		Detention	4	
PL57	Lower Aquia Creek			5
		Detention	4	
		Infiltration	1	
Winchester, VA		CUA Total Facilities		15
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6
PU16	Opequon Creek-Sulphur Spring Run			11
		Detention	11	
PU17	Abrams Creek			3
		Detention	3	
PU18	Opequon Creek-Redbud Run			1
		Detention	1	
VDOT Stormwater Facilities			Table 6 A	128

Table 6 B - Facilities Reported Based on L&D and Maintenance Database.

<u>Fredericksburg, VA</u>		CUA Total Facilities		23	Impervious Area Treated	66.23
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6	Impervious Area Treated	Acres
RA45	Rappahannock River-Motts Run			2		4.04
		Extended Detention Basin	2		4.04	
RA46	Rappahannock River-Hazel Run			16		56.58
		Bioretention Filter	1		0.23	
		Extended Detention Basin	14		55.64	
		Manufactured (Hydro-dynamic) BMP	1		0.71	
RA47	Massaponax Creek			3		2.84
		Extended Detention Basin	3		2.84	
YO41	Po River-Lake Pochahontas			3		2.77
		Detention	3		2.77	

Richmond, VA		CUA Total Facilities		85	Impervious Area Treated	477.64
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6	Impervious Area Treated	Acres
JA40	Appomattox River-Oldtown Creek			1		0.89
		Extended Detention Basin	1		0.89	
JA41	Swift Creek-Swift Creek Reservoir			2		6.37
		Extended Detention Basin	2		6.37	
JA42	Swift Creek-Third Branch			8		38.13
		Extended Detention Basin	8		38.13	
JA45	Appomattox River-Ashton Creek			2		34.27
		Extended Detention Basin	2		34.27	
JL01	James River-Almond Creek			3		6.85
		Extended	3		6.85	

		Detention Basin				
JL02	Falling Creek			42		217.91
		Extended Detention Basin	41		216.89	
		Grassed Swale	1		1.02	
JL03	James River-Proctors Creek			5		48.93
		Extended Detention Basin	5		48.93	
JL04	Fourmile Creek			2		27.61
		Extended Detention Basin	2		27.61	
JL17	Chickahominy River-Stony Run			4		11.09
		Extended Detention Basin	4		11.09	
JM83	James River-Bernards Creek			7		60.02
		Extended Detention Basin	7		60.02	
JM84	Tuckahoe Creek			5		13.38
		Extended Detention Basin	5		13.38	
JM85	James River-East Branch Tuckahoe Creek			1		4.37
		Extended Detention Basin	1		4.37	
JM86	James River-Little Westham Creek			3		7.82
		Extended Detention Basin	3		7.82	

Virginia Beach, VA		CUA Total Facilities		74	Impervious Area Treated	408.76
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6	Impervious Area Treated	Acres
CB21	Lower Chesapeake Bay-Poquoson River			5		9.26
		Extended Detention Basin	5		9.26	
CB22	Northwest Branch Back River			5		7.31
		Extended Detention Basin	5		7.31	
CB23	Southwest Branch Back River			8		42.93
		Extended Detention Basin	8		42.93	
CB25	Lynnhaven River			3		2.01
		Extended Detention Basin	2		1.66	
		Retention Basin II	1		0.35	
JL28	Chickahominy River-Yarmouth Creek			1		3.15
		Extended Detention Basin	1		3.15	
JL31	Powhatan Creek			10		66.10
		Extended Detention Basin	10		66.10	
JL33	James River-Lower Chippokes Creek			1		5.50
		Extended Detention Basin	1		5.50	
JL34	College Creek			5		23.34
		Extended Detention Basin	5		23.34	
JL35	James River-Skiffes Creek			2		8.22
		Extended Detention Basin	2		8.22	
JL38	Warwick River			6		23.28
		Extended Detention Basin	6		23.28	
JL54	Eastern Branch Elizabeth River			16		105.91
		Extended Detention Basin	15		93.22	
		Retention Basin II	1		12.69	
JL55	Western Branch Elizabeth River			1		53.04
		Extended Detention Basin	1		53.04	

HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6	Impervious Area Treated	Acres
JL56	Elizabeth River			4		41.39
		Extended Detention Basin	2		9.90	
		Extended Detention-enhanced Basin	1		22.02	
		Retention Basin II	1		9.47	
YO65	York River-Skimino Creek			1		0.80
		Extended Detention Basin	1		0.80	
YO67	Queen Creek			1		8.48
		Extended Detention Basin	1		8.48	
YO68	York River-Carter Creek			2		6.19
		Extended Detention Basin	2		6.19	
YO69	York River-Sarah Creek			3		1.85
		Extended Detention Basin	3		1.85	

Washington, DC-VA-MD		CUA Total Facilities		286	Impervious Area Treated	1,986.57
HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6	Impervious Area Treated	Acres
PL16	Goose Creek-Cattail Branch			3		24.81
		Extended Detention Basin	3		24.81	
PL18	Horsepen Run			15		47.25
		Extended Detention Basin	15		47.25	
PL19	Broad Run-Beaverdam Run			13		48.98
		Extended Detention Basin	13		48.98	
PL21	Sugarland Run			20		124.03
		Extended Detention Basin	20		124.03	
PL22	Difficult Run			11		117.15
		Dry Detention Basin	2		89.82	
		Extended Detention Basin	9		27.33	
PL23	Potomac River-Nichols Run-Scott Run			1		1.56
		Manufactured (Hydro-dynamic) BMP	1		1.56	

PL24	Potomac River-Pimmit Run			3		48.98
		Dry Detention Basin	2		44.11	
		Retention Basin II	1		4.87	
PL25	Potomac River-Fourmile Run			2		99.50
		Dry Detention Basin	2		99.50	
PL26	Cameron Run			10		33.17
		Extended Detention Basin	3		6.04	
		Manufactured (Hydro-dynamic) BMP	7		27.13	
PL27	Dogue Creek			1		0.89
		Extended Detention Basin	1		0.89	
PL29	Pohick Creek			16		67.46
		Extended Detention Basin	16		67.46	

HUC6	Watershed Name	Type of Facility	Total for Type of Facility	Total for HUC6	Impervious Area Treated	Acres
PL30	Accotink Creek			27		87.05
		Extended Detention Basin	17		63.24	
		Manufactured (hydro-dynamic) BMP	9		18.98	
		Retention Basin II	1		4.83	
PL34	Broad Run-Rocky Branch			13		142.32
		Extended Detention Basin	10		106.82	
		Extended Detention-enhanced Basin	3		35.50	
PL41	Occoquan River-Occoquan Reservoir-Lake Jackson			27		152.14
		Extended Detention Basin	20		140.28	
		Manufactured (hydro-dynamic) BMP	7		11.86	
PL44	Middle Bull Run			6		118.00
		Extended Detention Basin	6		118.00	
PL45	Cub Run			27		296.87
		Extended Detention Basin	27		296.87	
PL46	Lower Bull Run			27		128.62
		Extended Detention Basin	26		128.27	
		Grassed Swale	1		0.35	

PL47	Occoquan River/Occoquan Reservoir			10		34.47
		Extended Detention Basin	10		34.47	
PL48	Occoquan River-Belmont Bay			5		32.37
		Extended Detention Basin	5		32.37	
PL49	Neabsco Creek			18		95.47
		Extended Detention Basin	18		95.47	
PL50	Potomac River-Occoquan Bay			5		115.05
		Extended Detention Basin	4		51.77	
		Retention Basin I	1		63.28	
PL51	Powells Creek			13		133.77
		Extended Detention Basin	12		133.52	
		Grassed Swale	1		0.25	
PL52	Quantico Creek			13		38.66
		Extended Detention Basin	13		38.66	
VDOT Total Table 6 B		Stormwater Facilities		468	Impervious Area Treated	2,939.20