

**VSMP General Permit For
Stormwater Discharges From
Small Municipal Separate Storm Sewer Systems
(VAR040070)**

**Annual Report
FY2009**

(Prepared: September 2009)



City of Manassas Park

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**City of Manassas Park
Municipal Separate Storm Sewer System (MS4)
General Permit Annual Report
(VAR040070)**

I. Introduction

This report summarizes stormwater program activities during the period July 1, 2008 through June 30, 2009. Revised permit regulations became effective July 1, 2008, requiring revisions to the Permit Registration Statement on which the program is based. A revised Permit Registration Statement was submitted to DCR in January 2009. This Annual Report will use the revised Permit Registration Statement as the basis for review of the Stormwater Program.

No new MS4 outfalls were added during the permit year.

Modifications to the City's organization structure occurred during the permit period. The Code Enforcement Branch became part of the Police Department.

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.

Name, Title

Date

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II. Permit Status

A. BMP 0.1

Control Measure: 0: Administration of Stormwater Program

Description: Administration of Stormwater Program.

BMP: 0.1 - Overall administration of the Stormwater Program, including coordination between departments, evaluation of the program, preparation of the annual report and updates to the program.

Description/Strategy: The Stormwater Program for the City of Manassas Park (January 2009) includes the Registration Statement under the General Permit for Discharges for Small Municipal Separate Storm Sewer Systems (MS4) and all documents, policies, ordinances and procedures specified in the Registration Statement and any documents, policies or procedures necessary to implement the programs listed in the Registration Statement.

The City of Manassas Park will update and implement the MS4 Program including Best Management Practice (BMP) actions to achieve the goals described in the Program. In addition, the City of Manassas Park will evaluate the MS4 Program for weaknesses or limitations with regard to the Waste Load Allocation (WLA) associated with sediment in Bull Run. Implementation of a Stormwater Ordinance will be pursued by December 2009.

Status: The Stormwater Program is administered by the Department of Public Works, in coordination with other departments as appropriate. This Annual Report was prepared to satisfy the requirements of the General Permit.

Activities planned for next permit period: A program evaluation will take place during the months of October and November 2009. At that time, a stormwater ordinance will be developed with the decision to move forward with enactment following.

The program evaluation will result in an updated MS4 Program Plan, including BMP's addressing the Bull Run WLA for sediment.

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B. BMP 0.2

Control Measure: 0: Administration of Stormwater Program

Description: Administration of Stormwater Program.

BMP: 0.2 - Implementation of Funding Source

Description/Strategy: The Stormwater Program for the City of Manassas Park will continue to implement a dedicated funding source for the program, based on a utility fee concept.

Status: A dedicated funding source, based on a utility fee concept, was developed and presented to the Governing Body of the City of Manassas Park. The fee was based on the impervious area on a parcel, with residential parcels assessed based on the average impervious area present on residential parcels (the Equivalent Residential Unit (ERU)). Commercial properties are assessed in multiples of the ERU.

Impervious areas were delineated on each parcel within the City, both residential and commercial. This data is stored in GIS databases.

The data can be linked to Treasurer's Office data so that the Stormwater Utility Fee could be added as a line item on the real estate tax bill.

In March, 2009, the Governing Body voted **not** to enact the Stormwater Utility Fee for FY2010. Existing funding from the General Fund would be used to continue existing stormwater programs. Stormwater Utility Fee discussions will continue during the next budgeting cycle.

Without the enactment of the Stormwater Utility Fee, some stormwater initiatives have been deferred to future years.

Activities Planned for Next Permit Period: During the budget cycle for FY2011, dedicated funding mechanisms for the Stormwater Program will be re-examined.

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C. BMP 1.1

Control Measure: 1: Public Education and Outreach on Stormwater Impacts

Description: Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

BMP: 1.1 - Stormwater education during after school programs run by the Parks and Recreation Department

Description/Strategy: Use of "Keep America Clean" coloring book series for younger children. Every week an environmentally associated issue is discussed with the children. Stormwater issues are included. Special emphasis on sediment discharge will be carried throughout the program (Bull Run WLA).

Status: The Parks and Recreation Department continues to use the "Keep America Clean" coloring book series in its programs for children. In addition, environmentally associated issues are used through the curriculum for after school care.

Since the curriculum has a general environmentally based focus, it is difficult to quantify the number of "stormwater" related sessions that were conducted. However, each child in the program was exposed to the need for clean water and some of the consequences of pollution.

As part of the Stormwater Program evaluation, more meaningful measurable goals will be developed.

Activities Planned for Next Permit Period: Continue use of environmentally focused curriculum for after school programs.

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BMP 1.2

Control Measure: 1: Public Education and Outreach on Stormwater Impacts

Description: Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

BMP: 1.2 - Distribute Stormwater related literature at Park and Recreation Department events (such as National Night Out and Fall Festival), at Building and Code Enforcement Office and at Public Works Department.

Description/Strategy: Brochures such as “After the Storm” are used, as well as “Keep America Clean” coloring books. These brochures are available at the Fall Festival, at the Public Works Department and when obtaining permits at the Building Permits Office.

Activities Planned for Next Permit Period: Continue distribution of brochures at public events and at the Public Works Department.

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E. BMP 1.3

Control Measure: 1: Public Education and Outreach on Stormwater Impacts

Description: Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

BMP: 1.3 - Participate in regional Clean Water Partners Program through the Northern Virginia Regional Commission.

Description/Strategy: Clean Water Partners produces print and radio/TV spots to educate Northern Virginians about stormwater pollution. Participation in the program will present the same message to the entire region.

Status: Staff at the Northern Virginia Regional Commission (NVRC) has proposed a Regional Stormwater Strategy Program which would include public education, illicit discharge assistance, and cooperative monitoring on a regional scale. The Regional Stormwater Strategy Program will encompass the Clean Water Partners Program.

Activities Planned for Next Permit Period: The City of Manassas Park is participating in the development of the program through the MS4 Forum of NVRC.

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F. BMP 2.1

Control Measure: 2: Public Involvement/Participation

Description: At a minimum, comply with applicable state, tribal and local public notice requirements when implementing the stormwater management program.

BMP: 2.1 - Storm Drain Marking Program

Description/Strategy: Storm drain markers are installed on all curb inlets in the City of Manassas Park by At-Risk-Teens (through the Department of Parks and Recreation Program) and by the Boy Scouts. Missing markers will be replaced.

Status: At this time, stormwater drain markers are present throughout the city. During routine trips through various neighborhoods, any drains that are lacking markers are identified for marking.

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G. BMP 2.2

Control Measure: 2: Public Involvement/Participation

Description: At a minimum, comply with applicable state, tribal and local public notice requirements when implementing the stormwater management program.

BMP: 2.2 - Comply with state and local public notice requirements

Description/Strategy: Public hearings will be conducted for all Stormwater Program Regulations and Ordinances, in accordance with local and state public notice requirements.

Status: No public hearings related to Stormwater Program Regulations and Ordinances were required during the permit year.

Activities Planned for Next Permit Period: Public hearings will be held before Stormwater Ordinance adoption and/or Utility Fee adoption.

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H. BMP 2.3

Control Measure: 2: Public Involvement/Participation

Description: At a minimum, comply with applicable state, tribal and local public notice requirements when implementing the stormwater management program.

BMP: 2.3 - Availability of MS4 Program documents

Description/Strategy: The Stormwater Management Program documents will be made available through various means:

- i. Press releases
- ii. Announcements in public meeting
- iii. Availability on the City of Manassas Park web site
- iv. Copies available upon request

These documents include the Registration Statement and the Annual Reports.

Status: Documents relating to the Stormwater Program are available from the Department of Public Works. In addition, the Registration Statement is available on the city's website. This Annual Report will be posted on the city's website.

Activities Planned for Next Permit Period: Stormwater Program documents will continue to be made available to the public through the means listed above.

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I. BMP 2.4

Control Measure: 2: Public Involvement/Participation

Description: At a minimum, comply with applicable state, tribal and local public notice requirements when implementing the stormwater management program.

BMP: 2.4 - Clean Up Days

Description/Strategy: The City of Manassas Park sponsors Clean Up Days and Hazardous Waste Disposal Days for citizens to properly dispose of bulky trash, debris and hazardous waste. Clean Up Days are scheduled in the spring. Residents may place debris or bulky trash at the curb for collection. Twice a year, Hazardous Waste Disposal Days are hosted, during which residents may take hazardous waste to designated sites for disposal.

Status: Clean Up Days continue to be held twice a year. Fall Clean Up Day was a drop off event in the Fall of 2008 (September 20 and 21, 2008). The curbside Spring Clean Up Days (May 2, 9 and 16, 2009) occurred over a period of three weeks in the Spring of 2009. Two Household Hazardous Waste Drop Off events occurred (September 27, 2008 and March 28, 2009).

Activities Planned for Next Permit Period: Clean Up Days and Hazardous Waste Days are planned to continue for the next permit period

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J. BMP 3.1

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: 3.1 - System Inventory

Description/Strategy: The City of Manassas Park maintains an inventory of storm sewers, stormwater facilities, sanitary sewers and water lines within the City of Manassas Park. This inventory will be kept up to date and will be modernized through the use of GIS systems and asset management systems, as appropriate.

Status: The stormwater infrastructure has been captured in a GIS database.

Activities Planned for Next Permit Period: During the Fall 2009 and Winter 2010, 20% of the infrastructure will be field verified. Information on new plans is added to the database within one year.

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K. BMP 3.2

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: 3.2 - Codes Prohibiting Discharge to Storm Sewer

Description/Strategy: The City Code of Manassas Park contains codes prohibiting discharge of contaminants to the storm sewer system.

Existing Ordinances, etc.:

City Code Chapter 5 Section 5-25 - Prohibiting Dogs from Defecating on the Property of Another

City Code Chapter 13 - Garbage and Trash

City Code Chapter 17 - Offenses Miscellaneous

City Code Chapter 25 - Water, Sewers and Sewage Disposal

Status: City Codes are in place.

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L. BMP 3.3

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: 3.3 - Sanitary Sewer Leaking and Overflows

Description/Strategy: The City of Manassas Park is proactively addressing the aging sanitary sewer system to minimize pipeline breaks and leaking.

Existing Ordinances, etc.:
City Code Chapter 25 - Water, Sewers and Sewage Disposal

Status: Over 26,000 linear feet of sanitary sewer was relined in 2006 and 2007. In FY2008, 10,180 LF of sanitary sewer was relined.

Measurable Goals: The remaining 15,000 LF will be relined by December 2010.

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M. BMP 3.4

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: 3.4 - Illicit Discharge Investigation

Description/Strategy: Reported cases of illicit discharge are investigated by the Code Enforcement Branch of the Police Department. Appropriate action is taken to alert proper authorities (such as Fire Department, DEQ, etc.) Follow up action is taken as appropriate.

Status: The Code Enforcement Branch was moved to the Police Department. Public Works staff has the ability to TV storm sewer lines to detect the source of an illicit discharge should one be reported.

Staff at the Northern Virginia Regional Commission (NVRC) has proposed a Regional Stormwater Strategy Program which would include public education, illicit discharge assistance, and cooperative monitoring on a regional scale. The City of Manassas Park is participating in the Regional Stormwater Strategy Program and anticipates utilizing assistance with illicit discharge outreach.

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N. BMP 3.5

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: 3.5 - Waste Oil Collection

Description/Strategy: Waste oil is collected at the City Garage. Residents may drop off used oil at the garage during normal working hours. Other departments also drop off waste oil at the City Garage (Parks and Recreation, School Board).

Status: Approximately 500 gallons of waste oil was collected during calendar year 2008. The City continues to collect waste oil.

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O. BMP 3.6

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: 3.6 - Citywide Observation of Storm Drainage System to Detect Illicit Discharge

Description/Strategy: As part of general duties of staff of the City of Manassas Park, any evidence of discharge to the storm sewer system is identified and reported to the Department of Public Works or Code Enforcement. This involves Police Department, Fire and Rescue Department, Parks and Recreation Department, Public Works Department, Planning Department and Building and Code Enforcement Department. Awareness of this job function is planned to be reiterated in the training component of Control Measure 6.

Status: Budget constraints have reduced training opportunities to informal training in most cases. Public Works staff works with staff from other Departments on a one-on-one basis during other job duties to raise awareness of the need to reporting any discharges to the storm sewer system.

Activities Planned for Next Permit Period: A more formal training program is planned for FY2010, depending on the outcome of discussions regarding a dedicated funding source.

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P. BMP 4.1

Control Measure: 4: Construction Site Stormwater Runoff Control

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to 10,000 square feet. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

BMP: 4.1 - Erosion and Sediment Control Legal Authority

Description/Strategy: The City of Manassas Park Erosion and Sediment Control Ordinance (Chapter 8 of City Code) regulates land disturbing activities within the City of Manassas Park. The Erosion and Sediment Control Program is regulated under the Virginia Erosion and Sediment Control Law (ESCL). The City of Manassas Park is not regulated under the Chesapeake Bay Preservation Act, but requires land disturbances equal to or greater than 10,000 square feet to obtain permits. Additionally, the City of Manassas Park has adopted the Virginia Erosion and Sediment Control Handbook as the source for standards and specifications for erosion and sediment control practices.

Status: Conduct of the Erosion and Sediment Control Program is the responsibility of the Department of Building Inspections. During the permit period, 2 E&S permits were issued.

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Q. BMP 4.2

Control Measure: 4: Construction Site Stormwater Runoff Control

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to 5000 square feet. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

BMP: 4.2 - E&S Staff Training

Description/Strategy: The City of Manassas Park requires that the Erosion and Sediment Control Program shall contain a Certified Administrator, a Certified Plan Reviewer and a Certified Inspector, who may be the same person.

Status: Currently, two staff members are certified as Combined Administrators.

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R. BMP 4.3

Control Measure: 4: Construction Site Stormwater Runoff Control

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to 5000 square feet. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

BMP: 4.3 - Construction Site VSMP Permits

Description/Strategy: The City of Manassas Park requires that, in order to obtain a Site Development Permit, the Permittee must certify that the appropriate VSMP Permit has been obtained from the Department of Conservation and Recreation.

Status: All construction projects requiring a Site Development Permit must certify that the appropriate VSMP Permit has been obtained. Department of Public Works offers assistance to developers in completing the permit application and SWPPP. VSMP permits and SWPPP's are requested from major construction projects.

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S. BMP 4.4

Control Measure: 4: Construction Site Stormwater Runoff Control

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to 5000 square feet. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

BMP: 4.4 - Track Land-Disturbing Activities

Description/Strategy: Track regulated land-disturbing activities and report the total number of land disturbing activities and the total disturbed acreage. The City of Manassas Park reports this information to the Department of Conservation and Recreation as part of the Erosion and Sediment Control Program. Future Annual Reports for the MS4 General Permit will include the information.

Status: The total number of land disturbing activities and the total disturbed acreage is tracked as part of the Erosion and Sediment Control Program. This information is reported to the regional office of DCR. The following table includes the data reported for the City of Manassas Park.

Disturbed Acreage, City of Manassas Park, Fiscal Year 2009

Jul-08		Aug. 2008		Sept. 2008		Oct. 2008		Nov. 2008		Dec. 2008	
ACRES	PROJECTS	ACRES	PROJECTS	ACRES	PROJECTS	ACRES	PROJECTS	ACRES	PROJECTS	ACRES	PROJECTS
0	0	0	0	0	0	0	0	0	0	0	0

Jan. 2009		Feb. 2009		Mar. 2009		Apr. 2009		May 2009		Jun-09	
ACRES	PROJECTS	ACRES	PROJECTS	ACRES	PROJECTS	ACRES	PROJECTS	ACRES	PROJECTS	ACRES	PROJECTS
10	1	0	0	0	0	1	1	0	0	0	0

FY 2009 Total	
ACRES	PROJECTS
11	2

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T. BMP 5.1

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities.

BMP: 5.1 - Long Term Operation and Maintenance
Responsibility

Description/Strategy: The City of Manassas Park requires that long term operation and maintenance responsibility be designated for conveyance systems and stormwater management facilities as part of plan approval for new developments and for redevelopment proposals. Where maintenance responsibility rests with the City, storm drainage and stormwater management easements are required to be dedicated to the City of Manassas Park. In addition, operation and maintenance responsibility for existing facilities is being researched to address issues of deferred maintenance.

Status: Operation and maintenance responsibility has been identified for all stormwater facilities in the City of Manassas Park. This was completed in 2008 for all existing facilities. Seven (7) new facilities came on line during the permit period, all of which are privately maintained. These facilities have been added to the database.

All new facilities will be added to the database as they come on line. Maintenance responsibility for new facilities will be clearly identified.

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U. BMP 5.2

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities.

BMP: 5.2 - Stormwater Management Maintenance
Agreements

Description/Strategy: The City of Manassas Park requires that long term operation and maintenance responsibility be designated for conveyance systems and stormwater management facilities as part of plan approval for new developments and for redevelopment proposals. Where maintenance responsibility rests with a private entity, a Stormwater Management Maintenance Agreement must be executed by the private entity, ensuring proper operation and maintenance of the facility. The wording of the agreement is undergoing modification by the City Attorney in light of the more stringent proposed MS4 regulations. After maintenance responsibility has been identified for existing stormwater management facilities, the City will attempt to obtain maintenance agreements from the responsible entities, if they do not already exist.

Status: Stormwater Management Maintenance Agreements have been researched for facilities in the City of Manassas Park. To date, there are only two facilities which are under contention as to which party bears the maintenance responsibility. The City Attorney is negotiating a resolution for these two facilities.

All new facilities are required to execute Stormwater Management Maintenance Agreements before bond release.

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V. BMP 5.3

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities.

BMP: 5.3 - Track all Permanent BMP's

Description/Strategy: The City of Manassas Park records all permanent BMP's installed in the City. Information recorded includes type, HUC, receiving water body, number of acres treated, whether BMP is inspected or maintained and how often the BMP is maintained. This information should be included in the Annual Report.

Status: All permanent BMP's have been recorded in a database, along with maintenance responsibility. Private facility owners will be contacted in FY2010 for maintenance data. The database is attached to this report.

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W. BMP 5.4

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities.

BMP: 5.4 - Maintenance Turnover Program

Description/Strategy: The City of Manassas Park has initiated a program in which maintenance of stormwater management facilities may be turned over to the city for facilities which serve more than one property. For the most part, these facilities serve residential communities and are maintained by the Homeowners Association. In order to participate in the program, the facility must be in good physical condition and be functioning properly before being turned over. Recordation of the maintenance transfer is recorded with the land records. This program allows HOA's to transfer maintenance responsibilities to the city (thereby reducing the burden on the association which is often ill suited to provide the service). The turnover program is an incentive to HOA's to perform needed maintenance once and then turn over the pond. The city is benefitted through the increased functionality of the facilities and is assured of proper maintenance in the future. A reduction in the amount of private facility inspection and enforcement is also realized.

Status: Negotiations with one homeowners association in relation to four stormwater management ponds are ongoing. Because of the delay in obtaining dedicated funding and the need for repairs to the ponds before they can be accepted by the City, the ponds will not be transferred until calendar year 2010 at the earliest.

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X. BMP 5.5

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities. 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.

BMP: 5.5 - Stormwater Management Facility Maintenance

Description/Strategy: The Department of Public Works performs routine maintenance on stormwater management facilities on a monthly basis in spring, summer and fall. More extensive maintenance is performed after inspection, typically in spring.

Status: During the period from July 1, 2008 through June 30, 2009, all city maintained ponds were mowed through a contract with the City's landscaping contractor. City maintained ponds were inspected for proper functioning.

Two ponds received thorough removal of shrub and sapling growth that had accumulated over a period of time.

Activities Planned for Next Permit Period: City maintained ponds will be mowed once a month during the growing season. Other facilities (manufactured BMP's) will receive annual maintenance.

All facilities (City maintained and private) will receive an operation and maintenance inspection annually. Manufactured BMP's will be inspected annually beginning in FY2010. Maintenance schedules will be adjusted based on experience with each facility. Privately maintained facilities will be inspected in FY2010. Owners will be informed of any deficiencies and will be required to repair the facilities

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Y. BMP 5.6

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities. 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.

BMP: 5.6 - Stormwater Management Facility Retrofit

Description/Strategy: The Department of Public Works upgrades stormwater management facilities to BMP standards when major work is performed on an existing facility. Three ponds have been retrofitted.

Status: Two ponds received aggressive removal of vegetation during the permit period. Ponds have been prioritized for retrofit work. As funding becomes available, ponds will be retrofitted.

Measurable Goals: All ponds will be renovated within 15 years

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Z. BMP 5.7

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities. 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.

BMP: 5.7 - Stormwater Outfall Reconnaissance (Bull Run WLA)

Description/Strategy: The City of Manassas Park has approximately 65 outfalls. Reconnaissance will be performed on 20% of outfalls each year. Reconnaissance will be performed base on "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments."

Schedule: Reconnaissance work for outfalls shall start in Oct 2009. Work is on schedule.

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AA. BMP 5.8

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities. 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.

BMP: 5.8 - Characterization of Stormwater Discharge (Bull Run WLA)

Description/Strategy: The City of Manassas Park will estimate the volume of stormwater discharged, as well as the quantity of sediment discharged, from the outfalls within the MS4. Precipitation amounts and land use cover will be used to estimate volume. Sediment control efficiencies and land use cover will be used to estimate sediment discharge.

Status: Stormwater from the City of Manassas Park flows into a segment of Bull Run which has been listed as an impaired water. Bull Run is impaired by sediment (benthic) and PCB's. The Occoquan River (into which Bull Run drains) is impaired by E. Coli. A benthic TMDL has been developed for Bull Run, which allocates a non-point source and instream erosion sediment loading of 117.7 tons/yr to the City of Manassas Park. In similar fashion, a bacteria TMDL has been developed for the Occoquan River which allocates an E. coli loading of 3.55E+09 cfu/yr to the City.

Stormwater volume and pollutant loading was estimated for Non-Point Sources in the City using the Long-Term Hydrologic Impact Assessment (L-THIA) model, developed by Purdue University, which can be found at <http://cobweb.ecn.purdue.edu/runoff/lthianew/>. Based on community-specific climate data, L-THIA estimates changes in recharge, runoff, and nonpoint source pollution resulting from development. Data related to land use within the City was input into the model. The Event Mean Concentration (EMC) for pollutants was obtained from Technical Memorandum: The Runoff Reduction Method, Center for Watershed Protection, 2008, available at www.vwrrc.vt.edu/SWC/documents/pdf/TechnicalMemo.pdf. Specifically,

Appendix G: Derivation of Event Mean Concentrations for Virginia was used. The EMC values used in the model were:

Pollutant	Event Mean Concentration
Total Suspended Solids	40 mg/l
Fecal Coliform	Residential: 2000 #/100 ml Non Residential: 970 #/100 ml

Output from the model included the volume of stormwater generated, as well as the loading of suspended solids and fecal coliform (E. coli was not modeled).

In order to characterize the reduction in suspended solids obtained by the stormwater management facilities (BMP's) operating in the City, the model was rerun by altering EMC values for land areas served by a stormwater management facility. The EMC values for these areas were reduced to 40% of the original EMC, reflecting a sediment capturing efficiency of 60% in the stormwater management facilities. The 60% figure was obtained from Technical Note #95 from the Center for Watershed Protection, Comparative Pollutant Removal Capability of Stormwater Treatment Practices, available at www.cwp.org/Resource_Library/Center_Docs/PWP/ELC_PWP64.pdf.

Results of the stormwater characterization for Non-Point Sources follow:

Location	Suspended Solids (lbs)		Volume (acre-ft)	Fecal coliform (millions)
	Original	With BMP's		
West	15288	13562	138.6	343288
Rte 28	4887	2845	44.3	104906
Conner Center/VRE	20898	11526	224.0	215243
Blooms West	6502	2962	59.0	146087
Blooms East	7129	2850	64.7	160148
Total	54,704 lbs (27.4 tons)	33,745 lbs (16.9 tons)	530.5	969,672

The model indicates that the stormwater management facilities result in a reduction of 10.5 tons of sediment/yr.

**City of Manassas Park
Municipal Separate Storm Sewer System (MS4)
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Virginia Stormwater Management Program
(VAR040070)**

BB. BMP 6.1

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: 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.

BMP: 6.1 - Hazardous Material Containment

Description/Strategy: The City of Manassas Park requires that employees dispose of used oil in a containment facility. The used oil is transported to a recycling facility by a contractor. Used oil from the Parks and Recreation Department, the Public Works Department and the School Board is recycled through this containment facility.

Similarly, used antifreeze is stored and recycled in a containment facility.

Salt used for winter snow and ice removal is stored within a containment area. Any stormwater leaving the salt storage area is stored in a salt containment facility and pumped out at the end of the season.

Status: The collection of used oil and antifreeze continues. Facility is adequate to handle the volumes of oil and antifreeze collected. Facility is adequate to control spills of oil and antifreeze.

Operation of the salt water containment facility continues.

**City of Manassas Park
Municipal Separate Storm Sewer System (MS4)
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CC. BMP 6.2

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: 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.

BMP: 6.2 - Fertilization & Irrigation Practices

Description/Strategy: Grounds maintenance for properties owned by the City of Manassas Park is split between the Department of Parks and Recreation (DPR) and the Department of Public Works. DPR maintains park properties, which consist primarily of Signal Hill Park and Costello Park. Costello Park is the site of the DPR headquarters building. The soil on the athletic fields and grounds is tested twice a year for nutrient levels. If any fertilizer is required, it is applied by slit seeding. No herbicides or pesticides are applied. Irrigation is performed by automatic sprinklers on timers set to water between 12 midnight and 6 am. The irrigation system is equipped with a sensor to detect rainwater so that the irrigation system does not operate during periods of rainfall.

The Department of Public Works maintains the grounds at City Hall, the Public Works facility and various small pump stations and well sites. Grounds maintenance consists of mowing of grass and aeration of the soil.

Status: The Department of Parks and Recreation continues to test athletic field soils before applying fertilizer so that the fields are not over fertilized. Irrigation continues to be performed only at night. Rainwater sensors detect periods of rainfall and shut off the irrigation system.

Irrigation is not available at other city facilities. Fertilization is kept to a minimum. Landscaping beds are mulched to conserve water.

The City of Manassas Park plans to continue with the same fertilization/irrigation processes.

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Municipal Separate Storm Sewer System (MS4)
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DD. BMP 6.3

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: 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.

BMP: 6.3 - Street Sweeping Program

Description/Strategy: The Street Sweeping Program is operated out of the Department of Public Works. All streets and municipal parking lots are swept by the street sweeper on a quarterly basis.

Status: Streets are swept on a continuing basis. Passes are made through the City on a rotation. Special cleaning is conducted in areas where dirt/debris collects.

The street sweeper records the number of times the hopper is emptied and averages once a day with an 8 CY hopper half full. Estimating 500 lb/CY for dirt and debris in the collected material and 150 working days a year results in removal of 150 tons of dirt/debris from City streets per year.

**City of Manassas Park
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EE. BMP 6.4

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: 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.

BMP: 6.4 - Pet Waste Management

Description/Strategy: The Department of Parks and Recreation posts Signal Hill Park to remind dog walkers to clean up after their pets. Bags are provided free to dog walkers at the park.

Status: Pet waste bags and receptacles are available at the park. New parks are equipped with pet waste bags and receptacles.

**City of Manassas Park
Municipal Separate Storm Sewer System (MS4)
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Virginia Stormwater Management Program
(VAR040070)**

FF. BMP 6.5

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: 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.

BMP: 6.5 - Employee Training

Description/Strategy: The Department of Public Works has developed an employee training program which gives employees of the City information regarding water quality, stormwater management, illicit discharge detection and reporting, good housekeeping practices and general expectations regarding the operation and maintenance of the storm sewer system. This program will be implemented in various departments within the city. Feedback on the effectiveness of the program will be used to revised and improve the information and format.

Status: Senior Staff from Public Works registered for a Hazardous Material Handling, Spill Prevention and Cleanup Training Session. The training took place in August, 2009. The training emphasized the importance of spill prevention and material cleanup before it enters the storm sewer system or a stream.

Schedule: Additional employees are scheduled to attend similar training in summer of 2010.

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GG. BMP 6.6

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: 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.

BMP: 6.6 - Municipal Property Evaluation (Bull Run WLA)

Description/Strategy: The Department of Public Works shall evaluate all properties owned by the city and characterize the runoff from each property. If sediment is found to be discharged from the property, the city shall develop and implement a plan to minimize the discharge of sediment.

Existing Ordinances, etc.: None

Schedule: The Community Facility is currently under construction and has been designed to provide for enhanced sediment control during and after construction. Other city properties will be evaluated beginning in July, 2010. All facilities will be evaluated by December 2012. Facilities to be evaluated include:
City Hall
Fire Station
Police Station
Public Works Yard
Various parks.

Measurable Goals: All facilities inspected by December 2012.
Plans prepared to minimize sediment release prepared by December 2013.

Status: Work is proceeding as scheduled on the new Community Center. Other city properties will be evaluated starting in July, 2010.

**City of Manassas Park
Municipal Separate Storm Sewer System (MS4)
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III. Responsible Persons (FY2010)

Principal Executive Officer:

Title: City Manager
Mercury T. Payton

Duly Authorized Representatives:

Title: Assistant City Manager
Vacant

Title: Department of Public Works, Director
Kathleen Gammell

Title: Department of Parks and Recreation, Director
Catherine Morretta

Title: Code Enforcement Branch, Police Department
Captain Karen Barton