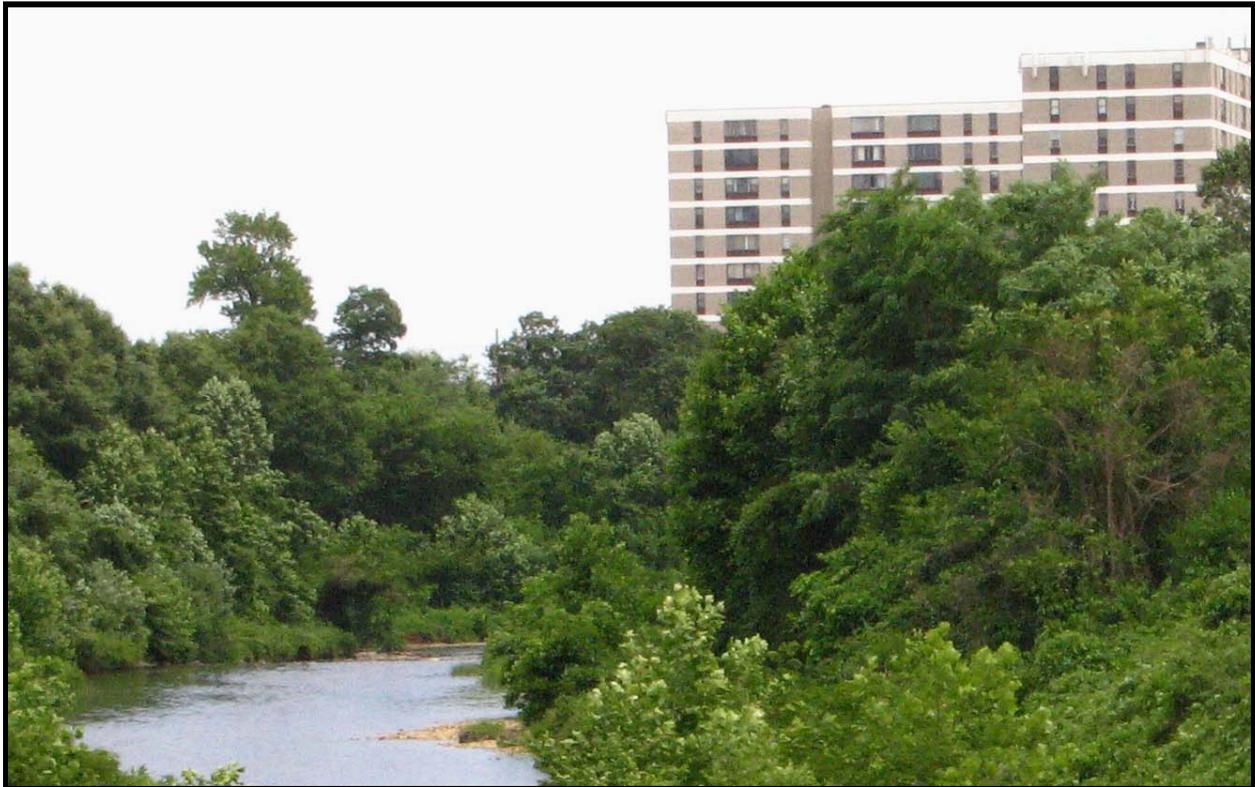


## City of Alexandria, Virginia

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# Year 4 VSMP MS4 Annual Report Permit No. VAR040057

For compliance with 4VAC50-60 "General Virginia Stormwater Management Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems"



Department of Transportation and Environmental Services  
Office of Environmental Quality  
301 King Street, Alexandria, VA 22314  
703-519-3400

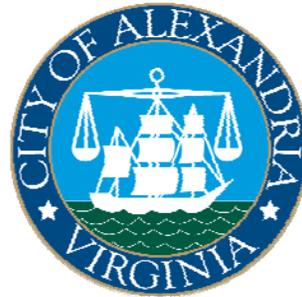
**September 28, 2012**



**VSMP General Permit for  
Small Municipal Separate Storm Sewer Systems  
Permit No. VAR040057**

Year 4 Annual Report  
July 1, 2011 – June 30, 2012

City of Alexandria, Virginia



Submitted by  
City of Alexandria  
Department of Transportation and Environmental Services  
Office of Environmental Quality  
301 King Street, Alexandria, VA 22314



# 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."

<u>William G. Stralok</u>	<u>Dep. Dir., Dept. of Transportation &amp; Env. Services</u>	<u>1-28-12</u>
Name	Title	Date



*City of Alexandria, Virginia*

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**MEMORANDUM**

DATE: SEPTEMBER 30, 2009

TO: WILLIAM SKRABAK, DIRECTOR, OFFICE OF ENVIRONMENTAL  
QUALITY, TRANSPORTATION AND ENVIRONMENTAL SERVICES

FROM: JAMES K. HARTMANN, CITY MANAGER 

SUBJECT: DESIGNATED PERMIT MANAGER FOR THE SMALL MS4 (MUNICIPAL  
SEPARATE STORM SEWER SYSTEM) GENERAL PERMIT

---

The purpose of this memorandum is to designate Director of Office of Environmental Quality ("Director", currently William Skrabak), who has the overall responsibility for environmental matters for the City of Alexandria, as the Permit Manager for the Small MS4 General Permit. As such, the Director is authorized to submit re-application and any reports required by this permit. As part of these submissions, he is also authorized to make any certifications that may be required for such submissions.

C: Mark Jinks, Deputy City Manager, City of Alexandria  
Rich Baier, P.E., Director, T&ES  
Emily A. Baker, P.E., City Engineer, T&ES

**VSMP General Permit for  
Small Municipal Separate Storm Sewer Systems  
Permit No. VAR040057**

Year 4 Annual Report  
July 1, 2011 – June 30, 2012  
City of Alexandria, Virginia

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# APPENDICES

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## **APPENDIX E**

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## **APPENDIX F**

Sample Agenda for the Environmental Industrial Unit  
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RP&CA Safety Conference Materials and Sign-In Sheet  
Completed Pollution Prevention Inspection Checklists and Facility Summary Report



# 1 Introduction

This Permit Year 4 (PY4) Annual Report has been prepared by the City of Alexandria Office of Environmental Quality in accordance with the requirements of the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Storm Water from Municipal Separate Storm Sewer Systems (4VAC 50-60 *et seq.*). The City was originally issued General Permit VAR040057 on July 8, 2003 and successfully met the requirements over the initial five year permit period. The Department of Conservation and Recreation (DCR) re-issued the permit on July 9, 2008 for an additional five years.

Under the terms of the General Permit, the City has developed a Municipal Separate Storm Sewer System (MS4) Program Plan to implement six minimum control measures aimed at reducing the discharge of pollutants to the “maximum extent practicable.” Minimum control measures include:

1. Public Education and Outreach	4. Construction Site Runoff Control
2. Public Participation and Involvement	5. Post-Construction Stormwater Management
3. Illegal Discharge Detection and Elimination	6. Pollution Prevention and Good Housekeeping

The General Permit requires that the City submit annual reports no later than October 1<sup>st</sup> covering the reporting period of the preceding July 1<sup>st</sup> through June 30<sup>th</sup>. This PY4 Annual Report covers the period of July 1, 2011 through June 30, 2012. Part II E 3 of the General Permit outlines the requirements for the annual report:

- a. Background information, including: (1) the name and permit number of the program submitting the annual report; (2) the annual report permit year; (3) modifications to any operator’s department’s roles and responsibilities; (4) number of new MS4 outfalls and associated acreage by HUC added during the permit year; and, (5) signed certification in accordance with 4VAC50-60-370.
- b. The status of compliance with permit conditions, an assessment of the appropriateness of the identified best management practices, including an assessment of the appropriateness of the identified BMPs in addressing discharges into waters that are identified as impaired in the 2006 305(b)/303(d) Water Quality Assessment Integrated Report, and progress towards achieving the identified measurable goals for each of the minimum control measures.
- c. Results of information collected and analyzed, including monitoring data, if any, during the reporting period.
- d. A summary of the stormwater activities the operator plans to undertake during the next reporting cycle.

- e. Changes in any identified best management practices or measurable goals for any of the minimum control measures, including steps to be taken to address any deficiencies.
- f. Notice that the operator is relying on another government entity to satisfy some or the permit obligations, if applicable.
- g. The approval status of any qualifying local programs pursuant to Section II C of the General Permit, if appropriate, or progress towards achieving full approval of these programs.
- h. Information required pursuant to Section I B 9 of the General Permit regarding special conditions associated with a total maximum daily load (TMDL) approved by the State Water Control Board, if applicable.
- i. The number of illicit discharges identified and the narrative on how they were controlled or eliminated pursuant to Section II B 3 f of the General Permit.
- j. Regulated land-disturbing activities data tracked under Section II 4 c of the General Permit.
- k. All known permanent stormwater management facility data tracked under Section II B 5 b (6) of the General Permit submitted in a database format to be prescribed by the department.
- l. A list of any new or terminated signed agreements between the operator and any applicable third parties where the operator has entered into an agreement in order to implement minimum control measures or portions of minimum control measures.
- m. Copies of any written comments received during a public comment period regarding the MS4 Program Plan or any modifications.

## 2 Background Information

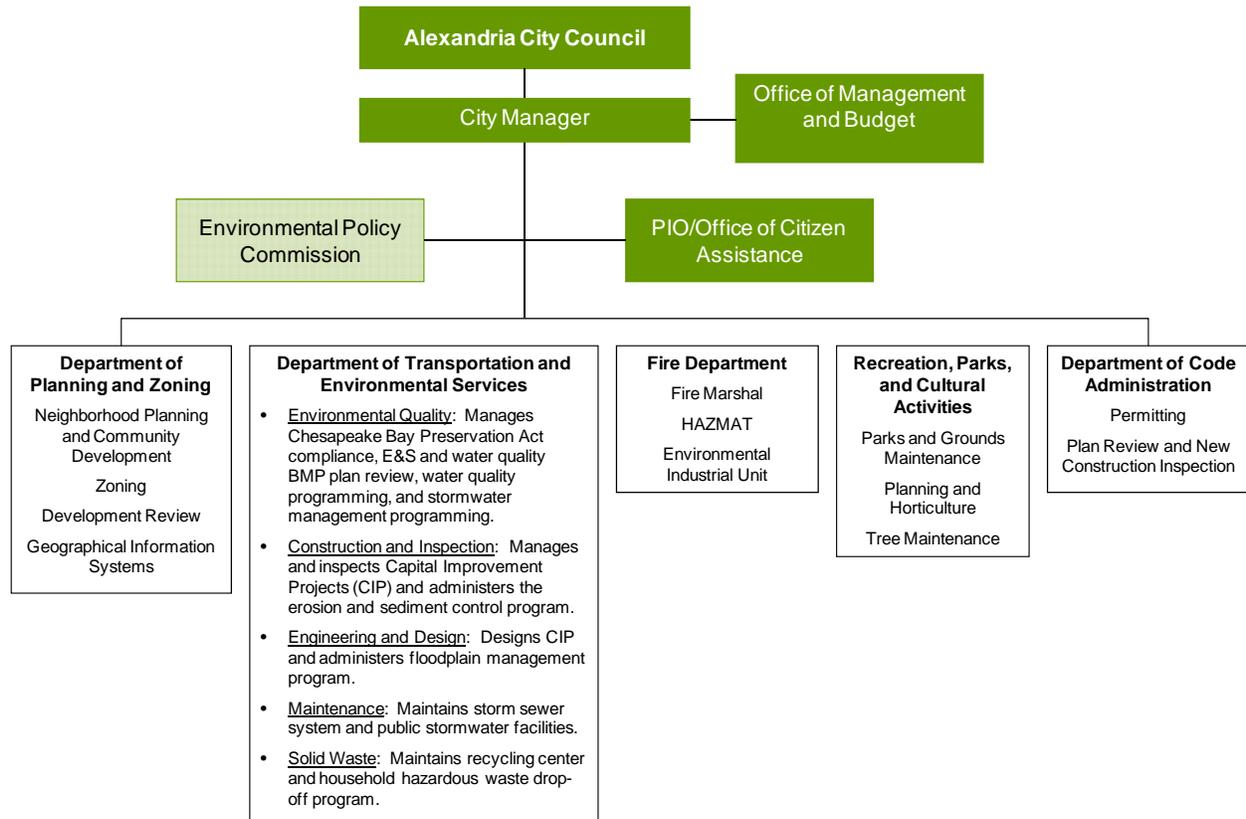
This section provides background information as required in Part II.E.3.a of the General Permit.

<b>Name of Operator:</b>	<b>Permit Year:</b>		<b>Permit Number:</b>			
City of Alexandria	Permit Year 4		VAR040057			
<b>Modifications to Roles and Responsibilities:</b> None.						
<b>New MS4 Outfalls:</b>	<b>Potomac River (PL28)</b>		<b>Cameron Run (PL26)</b>		<b>Four Mile Run (PL25)</b>	
	Outfalls	Drainage	Outfalls	Drainage	Outfalls	Drainage
	None	None	None	None	None	None

The organizational chart below outlines City departments with major stormwater management functions or responsibilities. An Environmental Industrial Unit within the Office of Building and Fire

Code Administration was established in 2009 and reported in the PY1 Annual Report. Additional information about each department is found in the MS4 Program Plan.

## Stormwater Management Organizational Chart



While stormwater activities and functions are divided among several different departments and divisions, the Office of Environmental Quality has primary responsibility for coordinating compliance with the permit.

### 3 Compliance with Year 4 Permit Conditions

The following provides the status of Permit Year 4 (PY4) conditions for each of the six minimum control measures (MCMs). This includes all ongoing BMPs. One-time BMPs implemented in PY1, PY2, and PY3 are not included, and may be found in their respective annual reports previously submitted to DCR. Each section begins with a summary table describing the task, the implementation year, the measurable goal as described in the City’s adopted MS4 Program Plan, and task status. Following the summary table is a more detailed discussion of the implementation status of each task. Additional support materials are located in the appendices.

### 3.1 Public Education and Outreach (MCM #1)

The following table is a summary of activities for Minimum Control Measure #1 and their completion status. Additional detail is provided after the table and in Appendix A.

BMP	Year	Measurable Goal	Status
<b>1A General Public Education and Outreach</b>			
Distribute brochure at community events.	All	Document efforts to engage and educate citizens, including the number of events attended and an estimate of the number of individuals reached.	✓ Complete
Include environmental/water quality article in FYI Alexandria.	2-On	Document publication of an environmental/water quality article in FYI Alexandria.	✓ Complete. Note that the format for these messages has shifted from FYI Alexandria to Alexandria eNews.
Continue participation in regional education programs.	All	Summarize activities of the Clean Water Partners program and the results of any assessments of the program's effectiveness.	✓ Complete
<b>1B Stream Crossing Signs</b>			
Maintain stream crossing signs.	All	Document maintenance of the signs for the annual report.	✓ Complete
<b>1C Text Messages and PSAs for Cable TV</b>			
Implement cable TV text message and PSAs.	All	Document the PSAs and scrolling text message.	✓ Complete
<b>1D Stormwater BMP Signage</b>			
Implement stormwater BMP signage.	All	Provide examples of signage and labeling that has occurred, if any.	✓ Complete
<b>1E Storm Drain Inlet Marking</b>			
Implement storm drain inlet marking.	All	Provide the number of storm drain markers installed and the number of groups involved in storm drain marking projects.	✓ Complete
<b>1F Water Quality Website</b>			

<b>BMP</b>	<b>Year</b>	<b>Measurable Goal</b>	<b>Status</b>
Host water quality website.	All	Provide information on the website and a snapshot of the page.	✓ Complete
<b>1G Education Concerning Fecal Coliform Bacteria</b>			
Distribute pet waste brochure and post cards at appropriate events.	All	Summarize activities and report the number of brochures and post cards distributed to City residents.	✓ Complete
Distribute pet waste brochure at the animal shelter.	All	Report the number of brochures distributed at the animal shelter.	✓ Complete
Implement kiosk at Fort Ward Dog Exercise Area.	4	Provide documentation of kiosk installation.	✓ Complete
<b>1H Letter to Lawn Care, Carpet and Duct Cleaning, and Painting Businesses</b>			
No new BMPs for PY4.	NA	NA	NA
<b>1J Outreach to Minorities</b>			
Distribute bi-lingual brochures at appropriate events.	All	Summarize outreach activities where City staff distributed bi-lingual education information.	✓ Complete
Use new Census data to assess need for brochures in other languages.	4	Summarize Census data and assessment on need for additional languages.	✓ Complete

### **BMP 1A General Public Education and Outreach**

The City implemented the following BMPs during PY4 in accordance with the MS4 Program Plan:

- The City updated the general education brochure in PY1 and continued to distribute it at community events and meetings. See below for a table of events and meetings.
- Previously, the City included a water quality related article in the City's *FYI Alexandria* newsletter. That newsletter is no longer published regularly. Instead, Alexandria eNews is used to reach a larger audience on a more frequent basis. Alexandria eNews sent out on April 11, 2012, April 18, 2012, and May 2, 2012, included information on upcoming watershed and stream cleanup opportunities, Alexandria Earth Day activities, and rules about proper pet waste disposal. The eNews alerts are included in Appendix A.

- The City continues to participate in the Northern Virginia Regional Commission’s Clean Water Partners program through its online and radio campaign. The website, Only Rain, can be found at [www.onlyrain.org](http://www.onlyrain.org). The City also participates in the Metro DC Dog Blog and the Metro DC Lawn and Garden Blog. The Dog Blog, [www.metro-dc-dog-blog.com](http://www.metro-dc-dog-blog.com), provides a forum for dog owners to learn about how to own a dog and keep local streams clean. The Lawn and Garden Blog, [www.gardening.mwgoc.org](http://www.gardening.mwgoc.org), features messages about reducing pollution and runoff through green gardening activities. Since July 2011, campaign ads have appeared on Google, Facebook, and YouTube over 8 million times, resulting in more than 60,000 visits to the campaign websites. In April 2012, two radio ads focused on pet waste and general stormwater pollution prevention. The ads ran on three radio stations, including a Spanish speaking station. The ads ran 236 times in PY4 and reached approximately 54,563 Northern Virginia residents. Finally, an online ad campaign was run in early 2012 on the topic of reducing fertilizer use. These banner ads received over 3 million impressions and resulted in 1,170 clicks to a web page featuring green lawn care information.

Measure of Effectiveness

The goal of this BMP is to reach a wide audience with a general pollution prevention message as well as specific actions that can be taken to reduce pollution. The following table summarizes the City’s public education and outreach activities and events where information on pollution prevention and water quality were distributed. Appendix A contains examples from the City’s general education program.

Activity	Description	Date	Participants (Approx.)
Sally Ride Science Festival for Girls	Demonstrated the nonpoint source pollution model (Enviroscape).	9/17/2011	30
World Water Monitoring Day	Program focusing on macro-invertebrates given to 5th and 6th graders	9/19/2011	about 250 middle school students
Enviroscape	Demonstrated the nonpoint source pollution model.	9/22/2011	9
Holmes Run Tree Planting	Riparian buffer planting.	10/23/2011	20
America Recycles Day	Distributed water quality and watershed related materials.	11/15/2011	40-50
Del Ray Meet and Greet	City staff attended the annual Del Ray event and distributed water quality and watershed related materials.	3/12/2012	50
Meeting with Northern Virginia Building Industry Association	Discussed new Virginia Stormwater Management Regulations.	4/12/2012	15
Eco-City @School	Education program at Mount Vernon Community School focusing on water resources and Chesapeake Bay protection. The program included a storm drain marking event.	4/16/2012	24

Activity	Description	Date	Participants (Approx.)
Alexandria Earth Day	Annual event sponsored by the City of Alexandria and supported by a wide range of local community groups with a focus on environmental stewardship, including stormwater pollution prevention.	4/24/2012	about 1,500
BMPs in the Right-of-Way	Discussion about LID/ESD techniques in rights-of-way.	5/4/2012	35
Rain Barrel Workshop	As a partner in the Northern Virginia Rain Barrel Program, the City sponsored build your own rain barrel workshops at Cora Kelly Recreation Center and Polk Elementary School, participated in a rain barrel “train the trainer” program, and participated in the Artistic Rain Barrel Program by displaying a painted rain barrel at City Hall and being part of an auction event at Green Springs Nature Center.	5/12/2012	19 registrants with additional walk-ins.
Eco-City @School / Maury Science Night	Education program at Maury Elementary School focusing on water resources and Chesapeake Bay protection.	5/16/2012	about 35
Bike to Work Day	Event sponsored by OEQ/Eco-City, with information provided on Chesapeake Bay and local water resources.	5/18/2012	533 registrants
Earth Force Youth Summit	City staff participated in the 2012 Earth Force Youth Summit. The summit, which included participation from 120 students from Alexandria and Arlington, focused on what youth can do to protect water quality and the environment.	6/12/2012	about 120

Also included in Appendix A is a report from the Clean Water Partners with information on the effectiveness of the program. Specifically, the program conducted an online poll survey of 500 Northern Virginia residents to determine the effectiveness of on-line efforts and a series of radio ads aired in June 2012, to reveal any changes in behavior, and to aid in directing the future efforts of the campaign. Approximately 28% of the 500 respondents indicated that they had heard the radio ads or had been exposed to on-line messaging. The effectiveness of the messaging in changing behavior depended on the pollutant in question with 6% saying they changed behavior with regard to dog waste and 15% saying they changed behavior with regard to fertilizers. Approximately 65% of respondents said that they were already doing what was necessary to protect water quality.

### **BMP 1B Stream Crossing Signs**

The City previously installed 33 signs at 18 locations where roads cross major waterways. In addition, the City installed nine signs at major stream crossings on hike/bike trails. The signs promote awareness of Alexandria’s surface water resources, water bodies, and drainage basins.

Measure of Effectiveness

The City continues to actively maintain these signs so that they are in good condition.

**BMP 1C Text Messages and PSAs for Cable Television**

The City continued to run a pollution-prevention message throughout the year on the Alexandria government channel (Channel 70) similar to that documented in previous years. The message provides information on the importance of water quality protection efforts and where residents can obtain additional information.

Measure of Effectiveness

During PY4 the Channel 70 pollution prevention message continued to run approximately 10-30 times a day, seven days a week.

**BMP 1D Stormwater BMP Signage**

This task requires the City to implement, as a condition on new and redevelopment projects, a program to provide signage or labeling identifying new surface structural stormwater BMPs.

Measure of Effectiveness

No new surface structural stormwater BMPs were installed during PY4. See Section 13 for a list of all stormwater BMPs installed in PY4.



**BMP 1E Storm Drain Inlet Marking**

The City continues to require new development and redevelopment to mark storm drain inlets within the development and located within 50 feet of the project with information on the drainage destination of waters entering the structures. In addition, City staff continues to promote the storm drain marking program at community events and to work with interested residents to implement storm drain marking.

Measure of Effectiveness

In addition to those installed as a requirement of development or redevelopment, storm drain marking projects completed in PY4 included the following:

Group	Date	Watershed	Markers
Eagle Scout Project Troop	9/24/2011	Holmes Run (Brookville Seminary Valley)	400
Mount Vernon Community School	4/16/2012	Four Mile Run	58
Old Presbyterian Meeting House	6/3/2012	Cameron Run	265
		<b>Total</b>	<b>723</b>

## **BMP1F Water Quality Web Site**

The City continues to host a stormwater quality web page with updates provided frequently. The page is located at <http://alexandriava.gov/tes/oeq/info/default.aspx?id=3844>. Staff continues to add new content to the site and update existing content. In addition, the Office of Environmental Quality web page (<http://alexandriava.gov/Environment>) has a calendar for upcoming environmental events and a “Check This Out!” section that are updated by OEQ staff to highlight upcoming events or important information. These are used to promote volunteer stream clean-ups, green building workshops, “build your own” rain barrel workshops, pre-made rain barrel sales events, and other water quality related topics. Users may also sign up for *Alexandria eNews* email alerts with a specific focus on environmental and water quality issues, as well as information on volunteer opportunities, tips, and workshops.

### Measure of Effectiveness

A snapshot of the web site is found in Appendix A.

## **BMP1G Education Concerning Fecal Coliform Bacteria**

The City distributed its pet owner education brochure at all events in BMP 1A and also made the brochure available at Duncan Library, Show of Hands Crafts, and St. Elmo’s Coffee. In addition, the City animal shelter distributes this information to anyone adopting a pet. According to the Animal Welfare League of Alexandria, 310 dogs were adopted in Alexandria during PY 4 and each went home with a brochure in the adoption package. The brochures are also given to animal control officers to distribute to dog-walkers who may not be picking up after their dogs in parks or other public areas. In addition to the brochures, the City distributed “dog bone” pet waste bag dispensers at a number of events. A City press release (May 2, 2012) reminded residents about the importance of cleaning up after pets and the legal ramifications of non-compliance.



To help address the bacteria TMDL in non-tidal Four Mile Run, the City installed a pet waste station at the Fort Ward Dog Exercise Area. This dog park is the only one located within the non-tidal Four Mile Run. The City will assess the project and determine whether additional stations may be beneficial.

### Measure of Effectiveness

The City's pet owner education brochure and press release are located in Appendix A. A picture of the pet waste station is located to the right.



### **BMP1I Education Concerning PCBs**

The City is subject to a TMDL for PCBs developed for the tidal portions of the Potomac River. The City has adopted a standard condition in development special use permits (SUPs) requiring the screening for PCBs as part of the site characterization for sites that fall into the Department of Environmental Quality's identified high risk categories for PCBs. In PY2 the City developed a brochure about PCBs and why they are a concern in Alexandria. During P3, the brochure was posted to the City's web page.

### Measure of Effectiveness

The City's PCB education brochure and sample of SUP language (DSUP2011-00026, Condition #89, Page 43) are located in Appendix A.

### **BMP1J Outreach to Minorities**

The City continues to distribute bi-lingual brochures that emphasize the importance of not dumping anything into the storm drains. The bi-lingual brochure is distributed at all events in BMP 1A and the City's Annual Earth Day event. Census data for 2010 showed approximately 28% of City residents speak English less than "very well." Of that population, over 50% are Spanish speaking with a wide range of other languages making up the remaining amount. As a result, by focusing on both English and Spanish language materials, the City is able to effectively reach most of the City's population.

### Measure of Effectiveness

The bi-lingual brochure is found at <http://alexandriava.gov/tes/oeq/info/default.aspx?id=3876> and in Appendix A. In PY1, the City developed a map showing high densities of Spanish-speaking residents to help focus minority outreach efforts.

### 3.2 Public Involvement/Participation (MCM #2)

The following table is a summary of activities for Minimum Control Measure #2 and their completion status. Additional detail is provided after the table and in Appendix B.

BMP	Year	Measurable Goal	Status
<b>2A Public Notice and Participation</b>			
Meet all public notice requirements.	All	Document public notices, minutes, and other actions as appropriate.	✓ Complete
Post annual reports on web site.	All	Document that annual reports have been placed on the website.	✓ Complete
<b>2B Staff Support and Annual Water Quality Update to the EPC</b>			
Provide staff support to the Environmental Policy Commission.	All	Provide annual reports of the EPC as available and any relevant meeting minutes.	✓ Complete
Provide annual water quality update to the EPC.	All	Document the annual EPC update and provide a summary of any feedback.	✓ Complete
<b>2C City Sponsorship of Earth Day</b>			
Sponsor annual Alexandria Earth Day.	All	Document sponsorship and participation in Earth Day.	✓ Complete
<b>2D City Promotion of Clean Up Events</b>			
Sponsor, promote, and participate in clean up events by non-profits and the City.	All	Document promotion of events.	✓ Complete

#### BMP 2A Public Notice and Participation

The City implemented the following BMPs during PY4 in accordance with the MS4 Program Plan.

- The City met all requirements with respect to public notice and comments regarding the stormwater management program and permit requirements. There were no changes relating to the City's Code that would require public notice.
- The City has posted the MS4 Program Plan and the PY3 Annual Report on the stormwater web site.

Once the PY4 annual report is finalized, it will be posted to the web site and distributed to the Environmental Policy Commission.

### Measure of Effectiveness

A screen shot of the stormwater web page that shows the on-line link to the MS4 Program Plan and the PY3 Annual Report is shown below.

**Stormwater Management**

**Municipal Separate Storm Sewer System (MS4) Stormwater Program Plan**  
Under the Virginia Stormwater Management Program (VSMP) permit regulations, the City is required to control stormwater pollution to the maximum extent practicable and to develop a pollution prevention plan – known as a Municipal Separate Storm Sewer System (MS4) Program Plan. The City's initial plan was developed in 2003 and was revised in 2008 to reflect changes to the City's latest state permit - effective July 2008. The permit contains Six Minimum Control Measures (MCMs) listed below. The City has developed appropriate and effective Best Management Practices (BMPs) to control stormwater pollution to the maximum extent practicable. The [MS4 Program Plan](#) contains the BMPs that address the MCMs, which are discussed in some detail here.

**MS4 Annual Report for 2010-2011**  
Also under the Virginia Stormwater Management Program (VSMP) permit regulations, the City is required to submit an annual report to the Virginia Department of Conservation and Recreation (DCR). The report provides details of the BMPs the City performs as part of the MS4 Program Plan to meet or exceed the control measures (MCMs) of the MS4 Phase II General Permit. The reporting period covered by this year's annual report is from July 1, 2010 to June 30, 2011.

[Alexandria MS4 Annual Report Main Body](#)  
[Alexandria MS4 Annual Report AppendixA](#)  
[Alexandria MS4 Annual Report AppendixB](#)  
[Alexandria MS4 Annual Report AppendixC](#)  
[Alexandria MS4 Annual Report AppendixD](#)  
[Alexandria MS4 Annual Report AppendixE](#)  
[Alexandria MS4 Annual Report AppendixF](#)

### **BMP 2B Staff Support and Annual Water Quality Update to EPC**

The Office of Environmental Quality continues to provide ongoing staff support to the Environmental Policy Commission. Appointed by City Council, the EPC makes recommendations on environmental issues, including stormwater management. In order to ensure that the EPC provides a balanced perspective, its members represent predetermined stakeholder groups and professional backgrounds.

This BMP requires an annual update to the EPC on water quality programming in the City. This is conducted at the same time as the review of the EPC's annual report, which occurred on July 2, 2012. The EPC was also briefed by City staff on the implications of the Chesapeake Bay TMDL on the City's water quality programs on April 16, 2012. The EPC has continued working to implement a strategic collaborative planning process called *Eco-City Alexandria*. This effort includes water quality and had an aggressive public involvement and engagement component.

### Measure of Effectiveness

Appendix B contains the EPC's FY 2011 annual report and the agenda for the July 2, 2012 EPC meeting.

### **BMP 2C City Sponsorship of Earth Day**

The City continues to be an active sponsor of the Alexandria Earth Day event. The City's support for this event serves to strengthen private environmental stewardship efforts and provides citizens with a broad range of educational opportunities. The website for official Alexandria Earth Day activities is [www.alexearthday.org](http://www.alexearthday.org). Earth Day celebrations were held on April 21, 2012.

Measure of Effectiveness

Approximately 1,500 people attended the 2012 Alexandria Earth Day event. City staff was on hand to distribute materials and literature to educate residents about water quality and the importance of pollution prevention. The City's press release and the Earth Day 2012 poster are included in Appendix B.

**BMP 2D Promotion of Clean Up Events**

The City continued to partner with non-profit volunteer organizations to promote, organize, and encourage stream clean-up events.

Measure of Effectiveness

The City sponsored or helped promote the following stream clean-up events. The efforts resulted in the removal of over 216 bags of trash and 600 pounds of loose debris from City streams and open space.

<b>Activity</b>	<b>Date</b>	<b>Volunteers</b>	<b>Bags of Trash</b>
Virginia Clean Waterways Clean Up (International Coastal Clean Up) Oronoco Bay Park	October 15, 2011	42	53
Marina Park and Founders Park (Resident Led)	November 12, 2011	10	5
Friends of Dora Kelly Clean-Up Day	April 9, 2012	Not Counted	Not Counted
Tarleton Park Stream Clean Up	April 9, 2012	Not Counted	Not Counted
Potomac River Watershed Clean Up (Four Mile Run)	April 14, 2012 Three Locations	69	112 bags and 613 pounds of loose debris
Other Invasive Removal along the Holmes Run Scenic Easement	April/May 2012	1	10 bags of trash and 50 bags of garlic mustard

### 3.3 Illicit Discharge Detection and Elimination (MCM #3)

The following table is a summary of activities for Minimum Control Measure #3 and their completion status. Additional detail is provided after the table and in Appendix C.

BMP	Year	Measurable Goal	Status
<b>3A Nuisance Abatement Hotline and Web Based Reporting Form</b>			
Maintain Nuisance Abatement Hotline and web based reporting form.	All	Provide a snapshot of the Nuisance Abatement Hotline web page and web based reporting form. Document the number and types of incidents handled.	✓ Complete
<b>3B Household Hazardous Waste (HHW) Program</b>			
Provide HHW and used oil collection services.	All	Provide copies of the program web site and brochures. Document program participants and the number of barrels accepted.	✓ Complete
<b>3C Prohibition on Illicit Discharges</b>			
Enforce prohibition on illicit discharges (Chapter 13 of City Code).	All	Report number of discharges and provide a narrative on how they were controlled or eliminated. Review procedures and make recommendations accordingly.	✓ Complete
<b>3D Illicit Disposal Hazards Education for City Employees</b>			
Provide new and existing staff with pollution prevention information through the “My City” program.	All	Provide copy of information given to new employees.	✓ Complete
<b>3E Mapping of All Permitted Stormwater Discharges</b>			
Keep map of permitted discharges up-to-date and distribute to field crews.	All	Provide up-to-date map and list of state-permitted stormwater discharges.	✓ Complete
<b>3F Prohibition of Outdoor Cleaning of Restaurant Equipment</b>			
Enforce prohibition on outdoor cleaning of restaurant equipment.	All	Document example SUP, if one has been done in the reporting period.	✓ Complete

<b>BMP</b>	<b>Year</b>	<b>Measurable Goal</b>	<b>Status</b>
<b>3G Storm Sewer System Map</b>			
Maintain an up-to-date storm sewer map.	All	Provide a summary of annual activities and a copy of the storm sewer outfall map.	✓ Complete
<b>3H Outfall Reconnaissance</b>			
Conduct outfall reconnaissance as required by the permit.	2-On	Summarize outfall reconnaissance activities, including the total number of outfalls inspected.	✓ Complete
<b>3I High Risk Facility Evaluation for Bacteria and PCBs</b>			
Conduct a site review and characterization for all “high risk” facilities.	3-4	No “high risk” facilities were identified during the assessment conducted in PY2. Therefore, no additional action is required.	✓ Complete
<b>3J Estimate of WLA Discharge for Bacteria and PCBs</b>			
Report WLA discharges to City streams.	All	Provide required discharge estimates.	✓ Complete

### **BMP 3A Nuisance Abatement Hotline and Web Based Reporting Form**

The City continues to maintain a Nuisance Abatement Hotline (703-836-0041), which is prominently displayed in many areas on the City’s web site. In addition, the City has on-line complaint reporting via email or a web-based form, which includes information on stormwater management. This can be accessed through the “Complaint Form” quick link on the Transportation & Environmental Services homepage. Complaints are handled jointly through the Office of Environmental Quality and the Environmental and Industrial Unit (EIU), which is part of the Fire Department (following a reorganization and creation of the Department of Code Administration).

#### Measure of Effectiveness

The City (through OEQ and EUI reporting mechanisms) handled 60 water quality and illicit discharge related complaints or incidents in PY4. The EIU is responsible for entering this information into the Permit Plan database when both OEQ and EIU are actively involved, while EIU and OEQ coordinate on response and follow-up. OEQ enters data into Cityworks for incidents handled solely by their office. Section 11 provides a summary of the complaints and a narrative on how each discharge was controlled or eliminated. Unlike previous years where the most frequent complaints involved

petroleum, illicit wash water discharges were the most common complaint/problem in PY4. Screen shots of the web-based reporting form, Permit Plan and Cityworks are provided in Appendix C.

### **BMP 3B Household Hazardous Waste Program**

The City continues to maintain a vigorous HHW program. The barrels of HHW collected decreased in FY2012, which could be due to citizens making smarter purchasing choices. The web site (<http://alexandriava.gov/tes/solidwaste/info/default.aspx?id=19206>) includes information on the types of materials that may be left at the drop-off points and the schedule for drop-offs. The following table provides a snapshot of HHW program statistics:

<b>Year</b>	<b>Users</b>	<b>Barrels of HHW</b>
FY2008	4,987	-
FY2009	6,067	754
FY2010	7,059	875
FY2011	7,920	822
FY2012	7,698	702

#### Measure of Effectiveness

By providing citizens with an opportunity to properly dispose of HHW, the City hopes to reduce illegal dumping. The most recent HHW program brochure is provided in Appendix C.

### **BMP 3C Prohibition on Illicit Discharges**

The purpose of this BMP is to ensure that the City has the legal tools necessary to effectively prohibit illicit discharges and to conduct necessary enforcement in the case of an illicit discharge. City Council has already adopted appropriate measures and provided documentation in previous annual reports. The City Attorney has reviewed the City Code and has determined that no additional changes are needed at this time.

#### Measure of Effectiveness

Section 11 provides a summary of illicit discharge complaints and a narrative on how each complaint was handled, including how any actual discharge was controlled or eliminated as appropriate. No pattern of illicit discharges necessitated a review of policies, procedures, or ordinances.

### **BMP 3D Illicit Disposal Hazards Education for City Employees**

The City continues to have a brochure for all City operational employees that is available on the T&ES web page and is provided to them by their supervisor during orientation and is posted in shared areas. The “My City” program is also located on the City’s intranet (available to all employees with

work station access), which also includes a bullet point entitled “Illicit Discharges and Dumping to the Storm Drain System.” Also, pollution prevention and good housekeeping training under BMP 6E includes identifying illicit discharges and properly notifying staff to enter service requests to the Cityworks tracking system. See BMP 6E for more information.

#### Measure of Effectiveness

A snapshot of the “My City” program web page and training provided to T&ES-Maintenance staff and Recreation, Parks, and Cultural Activities staff is found in Appendix F.

### **BMP 3E Mapping of All Permitted Stormwater Discharges**

The City continues to maintain a map of all state-permitted stormwater discharges within the City limits. The purpose of this BMP is to provide field operations staff with a visual tool for identifying permitted and non-permitted discharges.

#### Measure of Effectiveness

A current map and spreadsheet of state-permitted stormwater discharges, current as of July 2012, is located in Appendix C.

### **BMP 3F Prohibition of Outdoor Cleaning of Restaurant Equipment**

The City continues to include in the Special Use Permit (SUP) issued for restaurant facilities a statement that says: “Kitchen equipment shall not be cleaned outside, nor shall any cooking residue be washed into the streets, alleys, or storm sewers.”

#### Measure of Effectiveness

A sample of a recently approved SUP with the appropriate language regarding restaurant equipment is found in Appendix C (SUP2012-00023, Condition #12, Page 6).

### **BMP 3G Storm Sewer System Map**

The City has developed a storm sewer system map showing all features required in the MS4 permit, including all stormwater outfalls discharging to the waters of the Commonwealth, pipes, catch basins, and inlets. During PY2, the City identified and mapped physical interconnections with MS4s operated by Fairfax County, Arlington County, and the Virginia Department of Transportation (VDOT). Notification to these MS4s of the interconnections was also sent in PY2, which is ahead of schedule.

#### Measure of Effectiveness

The map of physical interconnections with neighboring MS4s and letters sent to these MS4s were included in the PY2 Annual Report. The City maintains an up-to-date storm sewer system map.

### BMP 3H Outfall Reconnaissance

In accordance with the MS4 Program Plan, the City began its outfall monitoring program during PY2 using the prioritization process established in PY1. The City also created an IDDE SOP to ensure consistency in all outfall reconnaissance. The following provides a summary of the City’s efforts by permit cycle:

Permit Year	PL25 Four Mile Run		PL28 Direct Potomac		PL26 Cameron Run	
	MS4 Plan	Done	MS4 Plan	Done	MS4 Plan	Done
PY2	14	16	2	2	25	37
PY3	26	28	2	2	50	49
PY4	26	31	2	2	50	49
PY4 Outfalls Requiring Further Investigation	0		0		1 <sup>1</sup>	
PY5	26	-	2	-	50	-
<b>Total</b>	<b>92</b>	<b>75</b>	<b>8</b>	<b>6</b>	<b>175</b>	<b>135</b>

1. Discharge was investigated during screening. Source was found and eliminated.

Note that in PY2, the City conducted 37 inspections in PL26 even though the MS4 Program Plan called for only 25, and inspected 31 outfalls in PL25 during PY4 when the MS4 Program Plan called for 26. As a result, the City continues to be ahead of schedule for achieving the 175 total inspections in PL26 by the end of this permit cycle.

#### Measure of Effectiveness

A detailed report of outfalls inspected, the results of each inspection, and any required follow-up activities can be found in Appendix C.

### BMP 3I High Risk Facility Evaluation for Bacteria and PCBs

Under the City’s permit, all properties owned or operated by the City were evaluated in PY2 for potential sources of TMDL wasteload allocations, including PCBs City-wide and fecal coliform bacteria in the non-tidal portion of Four Mile Run. Based on a detailed analysis, the City determined that it does not have any facilities that should be categorized as a “high risk” for PCBs or fecal coliform bacteria.

#### Measure of Effectiveness

No additional site review and characterization is required under this BMP since the City determined that no facilities are categorized as “high risk” for PCBs or fecal coliform bacteria. Details of the assessment were provided in the PY2 Annual Report.

### BMP 3J Estimate of WLA Discharge for Bacteria and PCBs

In accordance with the requirements of Section I B 9 of the General Permit, the City must conduct an annual characterization that estimates the volume of stormwater discharged in cubic feet, and the quantity of the pollutant identified in any WLA discharged in a unit consistent with any WLA. For Alexandria, this includes the non-tidal Four Mile Run, which is impaired for fecal coliform, and the entire tidal Potomac River drainage area, which is impaired for PCBs.

#### Measure of Effectiveness

This requirement is addressed in Section 10.

### 3.4 Construction Site Stormwater Runoff Control (MCM #4)

The following table is a summary of activities for Minimum Control Measure #4 and their completion status. Additional detail is provided after the table and in Appendix D.

BMP	Year	Measurable Goal	Status
<b>4A Maintain DCR Erosion and Sediment Control Program Consistency</b>			
Maintain E&SC program consistency with State regulations.	All	Document the City's consistent E&SC program, based on VDCR standards.	✓ Complete
<b>4B VSMP Permits for Construction Activities</b>			
Require construction site owners/operators to obtain VSMP stormwater construction permits.	All	Provide copies of modified checklists.	✓ Complete
<b>4C Citizen Complaint Reporting Mechanism</b>			
Maintain citizen complaint tracking system.	All	Report number of discharges and provide a narrative on how they were controlled or eliminated.	✓ Complete
<b>4D Land Disturbing Activities Tracking System</b>			
Collect all required information on land disturbing activities.	All	Summarize annual land disturbing activities.	✓ Complete

#### **BMP 4A Maintain DCR Erosion and Sediment Control Program Consistency**

The City's Erosion and Sediment Control Program has been determined to be "consistent" with State regulations by the Virginia Soil and Water Conservation Board. Staff from DCR performed a review of the City's Erosion and Sediment Control Program in December 2006. The City entered into a Corrective Action Agreement (CAA) with DCR to correct minor ordinance-related issues after which the Board found the program to be fully consistent.

##### Measure of Effectiveness

The City of Alexandria's E&SC program consistency status is documented on DCR's website – currently at [www.dcr.virginia.gov/stormwater\\_management/eslpr.shtml](http://www.dcr.virginia.gov/stormwater_management/eslpr.shtml).

#### **BMP 4B VSMP Permits for Construction Activities**

This BMP requires the City to ensure that all construction site owners and operators secure and implement a separate VSMP stormwater permit for construction activities. The City continues to include language in the plan review checklist stating that a stormwater permit is required. This language was further modified in PY1 to state that a VSMP permit must be secured prior to release of the final site plan. See below:

*All required permits from Virginia Department of Environmental Quality, Environmental Protection Agency, Army Corps of Engineers, Virginia Marine Resources must be in place for all project construction and mitigation work prior to release of the final site plan. This includes the state requirement for a VSMP permit for land disturbing activities greater than 2500 SF.*

The City's Erosion and Sediment Control preliminary and final checklists were also modified in PY1 to check for a VSMP stormwater permit while the Construction & Inspection Division conducts the initial field visit for the pre-construction meeting. The City has also included this requirement on its website (see next page) under "Construction Site Stormwater Runoff Control" at <http://alexandriava.gov/tes/oeq/info/default.aspx?id=3844>.

#### **Construction Site Stormwater Runoff Control**

Due to earth-disturbing operations, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting sedimentation and the contribution of other pollutants from construction sites can harm the City's streams, the Potomac River and the Chesapeake Bay. Construction site runoff control is key to preventing sediment from earth-disturbing operations, as well as construction debris, from contaminating the City's streams. Developers must keep sediment onsite. They must also control all construction site waste such as litter generated by job site workers and equipment waste materials such as used parts and oils.

Controlling sediment and debris at construction sites is crucial to protecting the environment, mitigating flooding by keeping this material out of our streams and storm drain system and ensuring safer vehicular travel by keeping mud out of the streets. This practice also reduces citizen complaints about mud in the street and loose litter.



The City's efforts to control stormwater runoff from construction sites are derived from the State's Erosion & Sediment Control Program and Chesapeake Bay Preservation Act. Local compliance of these two programs requires any construction project that disturbs at least 2,500 square feet must have an Erosion and Sediment Control Plan. Additionally, the Virginia Department of Conservation and Recreation (DCR) Stormwater Management Program (VSMP) requires the project to have a Stormwater Pollution Prevention Plan (SWPPP) related to the General Permit for Discharges from Construction Activities. Once the SWPPP is prepared, a registration statement for coverage under the VSMP Construction General Permit must be submitted to the Virginia Department of Conservation and Recreation (DCR). Currently the City seeks to ensure that the project has coverage under a VSMP Permit, but DCR administers the VSMP permit.

#### Measure of Effectiveness

The City's Erosion and Sediment Control checklist and a representative copy of the plan note to meet this requirement were provided in the PY2 Annual Report.

#### **BMP 4C Citizen Complaint Reporting Mechanism**

The City continues to maintain a mechanism to collect and process citizen complaints with regard to E&SC and illicit discharges and dumping (See BMP 3A). Complaints can be reported through the City's 24-hour Nuisance Abatement Hotline or on the City's website (see BMP3A). Residents may also call or email OEQ directly. Complaints are logged into the City's PERMIT-PLAN system (Tidemark Advantage) by EIU, or into Cityworks™ if received by OEQ. Web-based reporting is captured via Cityworks and is routed to OEQ. The City is currently considering a 311 call center and transitioning more widely to Cityworks, as it is being employed for asset management in the City. Reports can be generated out of either system.

#### Measure of Effectiveness

Section 11 provides a summary of these complaints and a narrative on how each discharge was controlled or eliminated. Below is a screen shot of the Cityworks complaint entry form. Tracking and reporting of illicit discharges and dumping are discussed in BMP 3A.

Description	Menu Code	Date1	Date2	Date3	Assigned To	Disp	Done By	Notes	Created Date	IVR Confir
Erosion & Sediment InsB300		7/11/2011	7/22/2011	7/20/2011	BLH	PASS	REM	No action required.	07/08/2011	
Erosion & Sediment InsB300		7/20/2011	8/3/2011	8/4/2011	BLH	PASS	BLH		07/20/2011	
Erosion & Sediment InsB300		8/4/2011	8/18/2011	8/18/2011	BLH	PASS	BLH	No action required.	08/04/2011	
Erosion & Sediment InsB300		8/18/2011	9/1/2011	9/1/2011	BLH	PASS	BLH	All controls in good working condition. No action required at this time.	08/18/2011	
Erosion & Sediment InsB300		9/1/2011	9/15/2011	9/16/2011	BLH	PASS	BLH	All controls in good condition.	09/01/2011	
Erosion & Sediment InsB300		9/16/2011	9/30/2011	10/3/2011	BLH	PASS	BLH	All controls in good working order.	09/16/2011	
Erosion & Sediment InsB300		10/3/2011	10/17/2011	10/18/2011	BLH	PASS	BLH		10/03/2011	
Erosion & Sediment InsB300		10/18/2011	11/1/2011	11/2/2011	BLH	PASS	BLH	All controls in good condition.	10/18/2011	
Erosion & Sediment InsB300		11/2/2011	11/16/2011	11/17/2011	BLH	PASS	BLH	No action required.	11/02/2011	
Erosion & Sediment InsB300		11/17/2011	12/1/2011	12/5/2011	BLH	PASS	BLH	No action required.	11/17/2011	
Erosion & Sediment InsB300		12/5/2011	12/19/2011	12/20/2011	BLH	PASS	BLH	Controls in good condition. No action required.	12/05/2011	
Erosion & Sediment InsB300		12/20/2011	1/3/2012	1/4/2012	BLH	PASS	BLH	All areas stabilized. No action required.	12/20/2011	
Erosion & Sediment InsB300		1/4/2012	1/18/2012	1/23/2012	BLH	PASS	BLH	All landscape installed. No action required.	01/04/2012	
Erosion & Sediment InsB300		1/23/2012	2/6/2012	2/9/2012	BLH	PASS	BLH	Project has all landscape in place and no action required.	01/23/2012	
Erosion & Sediment InsB300		2/9/2012	2/23/2012	2/27/2012	BLH	PASS	BLH	Project at as built status. No action required.	02/09/2012	
Erosion & Sediment InsB300		2/27/2012	3/12/2012	3/13/2012	BLH	PASS	BLH	Project has been completed.	02/27/2012	
Erosion & Sediment InsB300		3/13/2012	3/27/2012	4/2/2012	BLH	PASS	BLH	Project at as built status. No action required.	03/13/2012	
Erosion & Sediment InsB300		4/2/2012	4/16/2012	4/16/2012	BLH	PASS	BLH	No activity on the site. No action required.	04/02/2012	
Erosion & Sediment InsB300		4/16/2012	4/30/2012	5/2/2012	BLH	PASS	BLH	Project completed.	04/16/2012	
Erosion & Sediment InsB300		5/2/2012	5/16/2012	5/18/2012	BLH	PASS	BLH	Parking lot project completed.	05/02/2012	
Erosion & Sediment InsB300		5/18/2012	6/1/2012	6/1/2012	BLH	PASS	BLH	Parking lot project completed.	05/18/2012	
Erosion & Sediment InsB300		6/1/2012	6/15/2012	6/18/2012	BLH	PASS	BLH	Parking lot project complete.	06/01/2012	
Erosion & Sediment InsB300		6/18/2012	7/2/2012	7/3/2012	BLH	PASS	BLH	No action required.	06/18/2012	
Erosion & Sediment InsB300		7/3/2012	7/20/2012	7/23/2012	BLH	PASS	BLH	Parking lot completed. No action required.	07/03/2012	
Erosion & Sediment InsB300		7/23/2012	8/6/2012	8/7/2012	BLH	PASS	BLH	Parking lot complete. No action required.	07/23/2012	
Erosion & Sediment InsB300		8/7/2012	8/21/2012	8/23/2012	BLH	PASS	BLH	This project is complete. No action required.	08/07/2012	
Erosion & Sediment InsB300		8/23/2012	9/6/2012	9/10/2012	BLH	PASS	BLH	This phase has been completed. No action required.	08/23/2012	
Erosion & Sediment InsB300		9/10/2012	9/24/2012		BLH	PASS	BLH	This phase has been completed. No action required.	09/10/2012	

## BMP 4D Land Disturbing Activities Tracking System

The City is required to report to DCR the number of regulated land disturbing activities and total disturbed acreage annually. These reports are also filed on a monthly basis with DCR.

### Measure of Effectiveness

Section 12 provides a summary of annual land disturbing activities and total disturbed acreage.

### 3.5 Post Construction Stormwater Management (MCM #5)

The following table is a summary of activities for Minimum Control Measure #5 and their completion status. Additional detail is provided after the table and in Appendix E.

BMP/Task	Year	Measurable Goal	Status
<b>5A BMP Data Tracking System</b>			
Track BMP information required for reporting.	All	Provide a spreadsheet of all BMPs with information required by DCR.	✓ Complete
<b>5B Implement BMP Maintenance Agreements</b>			
Execute BMP maintenance agreements.	All	Provide a sample of a properly executed BMP agreement.	✓ Complete
<b>5C Implement Environmental Management Ordinance</b>			
Implement the City's Environmental Management Ordinance.	All	Document consistency by the Chesapeake Bay Local Assistance Board.	✓ Complete
<b>5D Evaluate BMP Design Guidelines</b>			
Continue to evaluate BMP guidelines and incorporate into City documents as appropriate.	All	Summarize changes to standards and provide update on incorporating LID into the Northern Virginia BMP Handbook.	✓ Complete
<b>5E BMP Facility Inspection and Enforcement</b>			
Inspect all BMP facilities for proper operation at least once during the permit period.	All	Document the number of BMPs inspected each year and provide statistics on number of facilities requiring follow-up action.	✓ Complete

#### BMP 5A BMP Data Tracking System

The City has developed a system to track all permanent structural BMPs installed in the City and to collect information required under Section II B 5 b (6) of the General Permit.

### Measure of Effectiveness

All required information for new facilities brought on line in PY4, including the types of BMPs, location, discharging water body, and number of acres treated, is provided in Section 13. A map of the City's BMPs is provided in Appendix E.

### **BMP 5B Implement BMP Maintenance Agreements**

The City continues to require the proper recordation and distribution of executed stormwater BMP maintenance agreements to ensure long term operation and maintenance of new BMPs. In addition, staff has also created a BMP maintenance vendors list for use by facility owners and operators.

### Measure of Effectiveness

A copy of a properly executed BMP maintenance agreement during PY4 is located in Appendix E.

### **BMP 5C Implement Environmental Management Ordinance**

The Chesapeake Bay Local Assistance Board designated the City's Environmental Management Ordinance and related programs to be fully consistent with Phase I and II of the Chesapeake Bay Preservation Area Designation and Management Regulations on September 17, 2007. The City has implemented all actions consistent with Phase III activities. DCR completed their review and the letter of approval is included in Appendix E. The City continues to provide annual data to DCR that demonstrates compliance through the Chesapeake Bay Preservation Area Annual Assessment of Activity. The City has hired a consultant to update the Environmental Management Ordinance to meet the new Virginia Stormwater Management Regulations. The anticipated "go-live" date for changes is July 1, 2014.

### Measure of Effectiveness

Specific information on the City's consistency status can currently be found at [www.dcr.virginia.gov/stormwater\\_management/comply4status.shtml](http://www.dcr.virginia.gov/stormwater_management/comply4status.shtml).

### **BMP 5D Evaluate BMP Design Guidelines**

No new changes have been made to the City's design and performance standards. As a result of the new Virginia Stormwater Management Regulations, some BMP design has been standardized in the form of DCR's BMP Clearinghouse. The City will use the Environmental Management Ordinance update process to assess whether the City wants to request modifications to the design standards. The City has also adopted a Green Building Policy to encourage development to meet green building standards such as LEED certification or equivalent, which includes stormwater management. The policy was included in the PY2 Annual Report.

## BMP 5E BMP Facility Inspection and Enforcement

The MS4 Program Plan commits the City to inspecting all stormwater management facilities at least once during the five year permit window. The number of facilities installed at the beginning of the permit cycle was 352. Since that time, additional facilities have been constructed (19 in PY2 and PY3 and 61 in PY4). These will be inspected during the next permit cycle. The City inspected 54 stormwater management facilities in PY4. In PY1, PY2, and PY3, 257 facilities were inspected, meaning that 311 of 352 facilities, or 88%, have been inspected during the first four years of this permit cycle. This places the City on schedule for meeting the requirement to inspect all facilities during the five year permit window. The City provides pre- and post-inspection letters as well as a BMP maintenance brochure to each owner.

### Measure of Effectiveness

A spreadsheet showing the results of facilities inspected in PY4 is located in Appendix E. Of the 54 facilities inspected, 26 required follow up maintenance.

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

The following table is a summary of activities for Minimum Control Measure #6 and their completion status. Additional detail is provided after the table and in Appendix F.

BMP	Year	Measurable Goal	Status
<b>6A Environmental Coordinating Group</b>			
Coordinate ECG meetings.	All	Provide ECG meeting agendas.	✓ Complete
<b>6B Street Sweeping Program</b>			
Continue the City's street sweeping program.	All	Document lane miles swept and cubic yards of debris collected.	✓ Complete
<b>6C Catch Basin and Inlet Cleaning Program</b>			
Continue the City's catch basin and inlet cleaning program.	All	Document the number of catch basins and inlets cleaned.	✓ Complete
<b>6D "My City" Program</b>			
Implement the "My City" program.	All	Document ongoing implementation.	✓ Complete
<b>6E Pollution Prevention Training</b>			

<b>BMP</b>	<b>Year</b>	<b>Measurable Goal</b>	<b>Status</b>
Conduct annual training for operational employees.	All	Document all training activities.	✓ Complete
<b>6F Pollution Prevention Protocols and Inspections</b>			
Develop SWPPP inspection checklist and conduct facility inspections.	4	Document completion of inspection checklist and any follow activities as needed.	✓ Complete
<b>6G Fertilizer and Pesticide Management</b>			
Revise procurement standards to require that contractors apply fertilizers and pesticides according to manufacturer's recommendations.	3	Provide a copy of the revised procurement specifications.	✓ See Narrative

### **BMP 6A Establish Environmental Coordination Group**

The Fire Department's Environmental and Industrial Use Unit (EIU) acted as lead with representatives from all City departments to meet monthly during PY4 to help coordinate environmental issues, including water quality investigation, enforcement, and documentation. The City's Environmental Coordinating Group (ECG) had previously taken the lead to coordinate interdepartmental issues. While there has not been a need to convene the ECG since creation of the EIU, staff is considering reactivating the ECG for broader environmental issues and is establishing the Stormwater Workgroup to help plan for the next MS4 permit, amended Virginia Stormwater Management Regulations, and Chesapeake Bay TMDL Action Plan.

#### Measure of Effectiveness

Sample EUI meeting agendas for PY4 are included in Appendix F.

### **BMP 6B Street Sweeping Program**

The City continued to implement a City-wide street sweeping program.

### Measure of Effectiveness

The City swept approximately 4,811.5 linear miles in PY4. The amount of street sweeping changes slightly each year depending on weather conditions and other factors.

The City's Curbside Leaf Collection program collected approximately 33,700 cubic yards of curbside vacuumed leaves to be recycled for mulch distribution in spring 2012. In addition, approximately 36,718 biodegradable bags were distributed to various locations throughout City facilities for use by citizens for bagged leaf collection activities. Approximately 17,394 biodegradable bags of leaves were collected for recycling as mulch for later distribution.

### **BMP 6C Catch Basin and Inlet Cleaning Program**

The City continued to implement a City-wide catch basin and inlet cleaning program.

### Measure of Effectiveness

The City cleaned 3,231 catch basins in PY4. A similar number of inlets and catch basins were inspected during the same period. The City has a total of approximately 2,000 catch basins, therefore some were cleaned more than once during PY4.

### **BMP 6D "My City" Program**

The City continues to implement the "My City" program to empower employees to report problems. In addition, the City continues to distribute a "Whose Job Is It?" brochure to all City staff. The brochure provides a one-page quick reference for reporting problems associated with City infrastructure, including stormwater management.

### Measure of Effectiveness

A screen shot of the "My City" program from the City's intranet is found in Appendix F.

### **BMP 6E Pollution Prevention Training**

The City conducted a stormwater pollution prevention training workshop on June 28, 2012 for City maintenance and field crew staff. The City also conducted a pollution prevention workshop as part of the Second Annual RP&CA Safety Conference for 43 staff members.

### Measure of Effectiveness

Copies of sign-in sheets for both training workshops are included in Appendix F.

### **BMP 6F Pollution Prevention Protocols and Inspection**

The City's permit requires a focus on inspection procedures and protocols to reduce illicit discharges from municipal sources. During PY2, the City developed an inspection checklist for use at City

facilities that have significant materials potentially exposed to stormwater runoff. The City conducted a comprehensive inspection using the checklist in PY4.

#### Measure of Effectiveness

The completed pollution prevention inspection checklists are included in Appendix F.

### **BMP 6G Fertilizer and Pesticide Management**

The City's permit requires that measures be taken to ensure that City staff applies fertilizers and pesticides in accordance with manufacturer's recommendations. At this time, City employees do not perform applications. Contractors, on a limited basis, apply pesticides and fertilizers according to the manufacturer's recommendations.

#### Measure of Effectiveness

The City's current contract language requires pesticides and fertilizers to be applied in accordance with all applicable state and federal regulations and requirements. Key staff has secured pesticide applicator certification for City-led horticultural applications. The City has hired a division chief to be in charge of all contracts. As such, new draft contract language is being created that will meet the current Virginia Nutrient Management and Pesticide Regulations. The City will continue to stay abreast of new regulations and revise its procurement language for private contractors as part of the update to the City's ordinances; as well as internal checklists and procedures to meet the new Virginia Stormwater Management Regulations and the next MS4 permit

## **4 Evaluation and Assessment of BMPs**

In accordance with Part II E 3 b of the General Permit, the City has reviewed and assessed the BMPs established to meet the requirements of the City's permit and have found them to be appropriate and effective.

## **5 Results of Information Collected**

No information, including monitoring data, was required to be collected or analyzed under the City's permit in PY4.

## **6 Summary of Year 5 Planned Activities**

The following table summarizes by minimum control measure the planned activities to meet new PY5 measurable goals. These tasks are in addition to any ongoing activities summarized in this PY4 Annual Report.

<b>BMP/Task</b>	<b>Year</b>	<b>Planned Activity</b>
<b>Minimum Control Measure #1 – Public Education and Outreach</b>		
BMP 1F. Conduct a website assessment and update accordingly.	5	The City conducted an initial evaluation of its website in PY2 and made changes accordingly. In PY5, the City will conduct a similar assessment and make additional changes to enhance the effectiveness of the site as needed.
<b>Minimum Control Measure #2 – Public Involvement</b>		
Continue ongoing programs and enhance as appropriate.	N/A	N/A
<b>Minimum Control Measure #3 – Illicit Discharge Detection and Elimination</b>		
Continue ongoing programs and enhance as appropriate.	N/A	N/A
<b>Minimum Control Measure #4 – Construction Site Runoff Control</b>		
Continue ongoing programs and enhance as appropriate.	N/A	N/A
<b>Minimum Control Measure #5 – Post Construction Stormwater Management</b>		
BMP 5E. Create a list of BMPs that should be inspected more frequently and establish an inspection schedule.	5	Based on experience with the existing inspection protocol, the City will assess whether any BMPs require more frequent inspections than the permit minimum and make changes as needed.
<b>Minimum Control Measure #6 – Pollution Prevention and Good Housekeeping</b>		
Continue ongoing programs and enhance as appropriate.	N/A	N/A
<b>Section F – Schedule Summary</b>		
Conduct evaluation in accordance with EPA guidance.	5	The City will conduct a comprehensive evaluation of the stormwater program using EPA guidelines. This information will be used to update the MS4 Program Plan for the next permit cycle.

## **7 Changes in Identified BMPs or Measurable Goals**

The City’s MS4 Program Plan is working to the satisfaction of the residents of Alexandria. No changes to identified BMPs or measurable goals are proposed at this time.

## **8 Reliance On Other Government Entities**

The City of Alexandria currently provides funding to the Northern Virginia Regional Commission to conduct supplemental public education and outreach activities (the regional Clean Water Partners program) and to maintain and update the Northern Virginia BMP Handbook.

## **9 Approval Status of Qualifying Local Programs**

The City of Alexandria has identified the Erosion and Sediment Control Ordinance, mandated by the Virginia Erosion and Sediment Control Regulations, to help satisfy Minimum Control Measure #4 - Construction Site Stormwater Runoff Control. In addition, the City has identified the Environmental Management Ordinance, mandated by the Virginia Chesapeake Bay Preservation Area Designation and Management Regulations, to help satisfy Minimum Control Measure #5 - Post Construction Stormwater Runoff Control.

The City's Erosion and Sediment Control Program has been reviewed and found consistent by the Virginia Soil and Water Conservation Board. In addition, the Chesapeake Bay Local Assistance Board (now superseded by the Virginia Soil and Water Conservation Board) has also found the City's Environmental Management Ordinance to be fully consistent with state regulations.

## **10 Special Conditions Associated with TMDLs**

In Alexandria, the non-tidal Four Mile Run has a TMDL for fecal coliform bacteria and the Potomac River drainage area (the entire City) has a TMDL for PCBs. Because the City is subject to TMDL wasteload allocations, Alexandria must comply with the special conditions found in Section I B of the General Permit. For the annual report, this means providing:

- Copies of any updates to the MS4 Program Plan completed during the reporting cycle and any new information regarding the TMDL in order to evaluate its ability to assure the consistency of its discharge with the assumptions of the TMDL WLA.
- The estimate of the volume of stormwater discharged, in cubic feet, and the quantity of the pollutant identified in the WLA discharged, in a unit consistent with the WLA.

The City used the comprehensive update of the MS4 Program Plan, submitted to DCR in December 2008, as an opportunity to establish specific goals, schedules, and strategies to meet the special WLA-related requirements contained in the City's permit. The City re-evaluated these goals, schedules, and strategies and notified DCR on January 7, 2010 that no modifications were necessary and that the MS4 Program Plan adequately addresses the permit requirements.

The following provides the required estimates for discharges to the non-tidal Four Mile Run and the Potomac River drainage area.

### Four Mile Run Fecal Coliform TMDL

No change in land use categories occurred in the Four Mile Run watershed during PY4. Therefore, the estimate for total stormwater and fecal coliform bacteria discharged from the MS4 has not changed from the PY3 Annual Report.

Based on guidance from DCR, the City utilized the Basic L-THIA (Long-Term Hydrologic Impact Assessment) model developed by the Purdue Research Foundation and hosted by the Local Government Environmental Network. The City used 2012 land use information generated from its GIS to populate the model. The following land use categories and acreage were used:

Commercial/Office .....	33 acres
Industrial/Utility.....	30 acres
Medium/High Density Residential .....	739 acres
Low Density Residential.....	654 acres
Parks and Open Space.....	145 acres

Based on these inputs, the model estimates a total annual volume of stormwater discharged at 68 million cubic feet.<sup>1</sup> The initial analysis also estimated a total discharge of  $2.98 \times 10^{11}$  fecal coliform bacteria. The City then examined several other factors, but for most of these factors there was insufficient data to justify making changes to the estimate. However, the City has implemented a more aggressive dog owner education and outreach program. Bacteria source tracking analysis from the Four Mile Run TMDL predicts that 12.9% of the WLA is dog related. While there are scattered surveys on the topic, there is little research on the overall effectiveness of dog owner education programs in reducing bacteria and no information on efficiencies is found in the EPA's Stormwater Menu of BMPs. However, using the Center for Watershed Protection's Watershed Treatment Model (v. 3.1), the City estimates that the program has reduced fecal coliform bacteria in stormwater by 5%. This uses the land use categories above and an estimate of 45% awareness of the City's outreach programs (as derived from estimates by the Clean Water Partners program). As a result, the final estimated total discharge is  $2.83 \times 10^{11}$  fecal coliform bacteria. This estimated discharge for only Alexandria is well below the TMDL wasteload allocation (WLA) of  $2.04 \times 10^{13}$  that represents the portion of bacteria attributed to impervious surfaces draining to all permitted MS4s (both phase 1 and 2). While the City has an aggressive education program and has an ordinance against the improper disposal of pet waste, quantifying the impact of these programs remains difficult.

### Potomac River PCB TMDL

No change in land use categories occurred in the PCB affected watersheds during PY4 and no PCB remediation projects occurred in PY4.

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<sup>1</sup> The Basic L-THIA model run resulted in 68,800,406.4 cubic feet; however, the model is not mean to be accurate to this level. The City's use of this model for MS4 reporting purposes is based on DCR guidance. Use of the model for this purpose does not infer any claims to the accuracy, reliability, or appropriateness in using this model or the outputs derived from the model in any other way.

As with the Four Mile Run TMDL, the City utilized the Basic L-THIA model to generate base information. The following land use categories and acreage were used:

Commercial/Office .....	2,422 acres
Industrial/Utility.....	805 acres
Medium/High Density Residential .....	2,290 acres
Low Density Residential.....	3,317 acres
Parks and Open Space.....	896 acres

Based on these inputs, the model estimated a total annual volume of stormwater discharged at 364,197,319.2 cubic feet. In the absence of a more robust model, such as the one used to actually develop the Potomac River TMDL, it is very difficult to accurately predict the discharge of PCBs from the City of Alexandria.

In determining a PCB discharge, similar to the Potomac River TMDL, the City utilized the correlation between TSS and PCBs. The Basic L-THIA analysis estimated a total discharge of  $1.09 \times 10^{12}$  pounds of TSS. Using the conversion formula developed for the Potomac River PCB TMDL, it is estimated that 1,093,562 pounds of TSS correlates to 26.17 grams of PCB.<sup>2</sup> It is noted that the equation is non-linear and will not produce the same results as if the City were to take actual TSS measurements from discrete storm events. It is also noted that this figure is significantly less than the baseline amount of 115 grams established for the Alexandria MS4 in the TMDL. The City will continue to work with DCR over the next year to refine the estimate methodology.

Summary of TMDL Discharges

Four Mile Run		Potomac River (City-Wide)	
Stormwater Discharge	Est. Fecal Coliform Discharge	Stormwater Discharge	Est. PCB Discharge
68,800,406.4 CF	$2.83 \times 10^{11}$ fecal coliform bacteria	$3.64 \times 10^8$ CF	26.17 grams

## 11 Illicit Discharges

The City identifies illicit discharges through the web based complaint form, telephone calls and email, and the Nuisance Abatement Hotline. Complaints are handled collaboratively by the Office of Environmental Quality and the Environmental Industrial Unit, with the EIU taking on responsibility for tracking complaints responded to jointly by both in the Permit Plan database. The following

<sup>2</sup> Discussion with Carlton Haywood, ICPRB, September 30, 2009. Mr. Haywood expressed the concern that the equation used ( $PCB_{3+} = 0.329 * TSS$  in  $mg/l^{0.5059}$ ) is non linear. A consequence is that a mean TSS value when plugged into the equation will not generate the same  $PCB_{3+}$  as the sum of  $PCB_{3+}$  values computed from a time series of TSS values from the individual flow events that make up the total stormwater volume. In order to address this concern, the City would need to get actual TSS measurements from discrete storm events. The City will work with DCR and ICPRB to refine the methodology for producing estimates of PCB discharges.

provides information on all water pollution related complaints and issues tracked by the City with a narrative on how the illicit discharge was controlled or eliminated, if applicable.

#	Date(s)	Description	Narrative and Result
CMP2011-02601	07/12/11	Cooking oil spill in rear of restaurant around oil containers.	Issued NOV to owner to clean up spill around oil containers.
CMP2011-02029	07/19/11	Received a tip that there are several vehicles spotting oil at Jordan and Holmes Run Parkway.	Spoke with the company, which responded by removing vehicles and cleaning up all oil spotting immediately.
OEQ 14036	7/22/2011	Water quality complaint.	Orange color due to iron oxidation in gutter pan. No sewage present. Explained situation to the resident.
CMP2011-02426	08/10/11	Received a complaint of someone dumping grease down storm drain.	Spoke with the representatives from the restaurants in this block and advised them that if they get caught dumping oil in the drains they will be getting a summons to appear in court.
CMP2011-02585	08/16/11	Illegal discharge into storm sewer from power washing cooking equipment.	Stopped operation immediately and advised contractor of violation. Contractor was compliant. They were advised this was a criminal violation and of possible charges if they repeat offense in future. Manager of business was also advised of the same. No further action taken.
CMP2011-02689	08/23/11	Unidentified discharge in Holmes Run.	T&ES advised that they had located the source of the discharge at 5500 Holmes Run Pkwy. There were two vaults side by side. Water had been pumped out of one of the vault and discharged into the storm sewer. The water contained in the vault looked stained and had a bluish tinge to it. Requested hazmat support unit to collect a sample of the water and perform preliminary testing. The tests performed did not show any presence of petroleum based products or any other hazardous material. The sample was sent to the State Laboratory for further analysis.
CMP2011-02748	8/24/2011	Vehicle in disrepair, leaking.	Posted NOV for oil leak.
CMP2011-02689	08/26/11	Unidentified discharge.	Management company had an environmental contractor come and dispose of the unidentified drum and other abandoned corrosives. Field testing revealed no immediate hazard.
CMP2011-02900	9/08/2011	Shed demolition debris dumped in park area.	Met with occupant who was informed of the illegal dumping; informed contractor to clean up.

#	Date(s)	Description	Narrative and Result
CMP2011-02905	09/08/11	Approximately 40-50 gallons of fuel oil leaked out of a 500 UST.	Issued NOV to home owner to obtain demolition permit for the tank removal and to provide documentation for the clean-up. Atlas Environmental conducted the cleanup and DEQ was notified.
CMP2011-02965	09/13/11	Discharge of petroleum based product and mineral oil.	Flooding at VA Paving caused the loss of petroleum based product (10 gallons) and 100 gallons of biodegradable mineral oil. Incident reported to DEQ.
CMP2011-03165	09/20/11	Oily substance in sump drain and exterior hillside.	Homeowner stated he saw an oily substance on hillside and in sump drain in basement during recent heavy rains. OEQ will check assessment records for any further information about old USTs that may have been in the area. No action needed at this time.
CMP2011-03208	09/23/11	Investigation of report of bluish-green water in creek and sewer odor.	Investigation of creek area reveals that the water appeared cloud, believed to be from recent rains and turbulence that has stirred up sand and silt in creek bed. No odor or sewage noted in area except around sewer access points that are located in the creek area. Tested using wastewater classifier strip all tests negative for petroleum, nitrates, and fluoride. Slight reaction indicating organics. No apparent hazard noted. Advised OEQ to monitor after rains stop and to call if it did not return to clear within a few days after rain has ceased. Advised OEQ of findings. No further action taken.
CMP2011-03887	11/01/11	Report of a Hazmat discharge.	Called complainant and left message. Went by property. No evidence of a discharge is left.
CMP2011-03897	11/01/11	Received report of illegal dumping of paint.	Received report of illegal dumping of paint. Arrived on the scene and turned out to be a trash bag with an empty paint. Called possible responsible party and they will pick up trash bag this afternoon
CMP2011-03896	11/02/11	Checking on possible illegal dumping.	Received referral from OEQ about a white substance at Holmes Run Creek. Checked area but nothing was found. It is believed that the white substance which appears to be paint had already settled in the creek and with the current rain it stirred up the paint to the surface. Nothing was found in the surrounding drains.
CMP2011-04083	11/17/11	Arlington Forest Auto - spill underneath used oil tank.	Issued NOV to clean up spill.

#	Date(s)	Description	Narrative and Result
OEQ 17157	11/17/2011	Water quality complaint.	Received an email from a citizen stating that she noticed a cloudy discharge into Holmes Run coming out of the outfall located adjacent to the north side of the Beatley pedestrian bridge. City staff observed approximately 75-100 linear feet of stream to be a cloudy, white color. The substance appeared to be settled beneath the water surface, along the bottom of the stream bed. There is an outfall about 150 ft upstream, but was unable to observe any evidence of the substance at the outfall. It appears as it could be somebody dumping / cleaning paint or a similar substance upstream, but there is no trail to follow. Forwarded information about this case to the City's Environmental Investigation Unit.
OEQ 17163	11/17/2011	Water quality complaint.	Citizen stated that she saw a black substance in the Timber Branch Stream behind her home while walking dog. She stated that this has been an ongoing issue off and on for about 6 months. Investigated complaint but was unable to observe any evidence of a black substance in the stream. OEQ has been notified periodically in the past about possible dumping in this stretch of Timber Branch, but staff has not been able to confirm the substance(s) in the stream, possibly due to lack of prompt notification. Staff will continue to monitor this area and hope to observe the event if another complaint is received.
CMP2011-04271	12/08/11	Investigated a diesel fuel spill that took place on 12/2/11.	Spoke to American Infrastructure and was told he would forward pictures and driver info. Incident was reported to DEQ and not Alexandria FD. Diesel fuel spill as a result of a fuel tank rupture from one of the contractors
CMP2011-04325	12/09/11	Hydraulic fuel spill in oil room.	While conducting a re-inspection, discovered a hydraulic liquid spill in oil room. Issued NOV to clean up immediately and to provide documentation from clean up company.
CMP2012-00012	12/20/11	Hydraulic oil spill at construction site.	Responded to an accidental hydraulic fluid leak at construction site. Issued NOV to construction superintendent to clean up area of spill.
OEQ 17943	12/21/2011	Potential dumping in stream.	Visited site and was able to observe a large amount of sediment in the stream, appears to be an E&S issue from upstream construction. On second visit, observed a very bright orange layer of sediment along the entire streambed north of I-395 & Braddock intersection. Called C&I to try and track down possible sources.

#	Date(s)	Description	Narrative and Result
FIR2012-00072	01/09/12	Fuel spill inside of the structure.	Initial call. Liquid spilled is combustible and not flammable as previously identified. Griffith Services pumped into an abandon pipe from a previously removed tank. Fluid is home heating oil - Fuel Oil. Contractor cleaned up site.
FIR2012-00111	01/24/12	Report of a truck dumping into Four Mile Creek.	Investigated this complaint received by APD. Found VA American water repairing a broken water main. Muddy water running down the curb into four mile creek. Complaint unfounded.
CMP2012-00346	1/30/12	Leak from vehicle repair in residential driveway.	Informed owner of need to clean up drippage.
OEQ 19098	2/15/2012	Dumping of slurry or sediment into stream.	Went to investigate and found an unattended pick-up truck and two trailers parked at the end of Kingston Ave at the cul-de-sac. One of the trailers was a Vermeer E800 Excavator (Trenchless Technologies), which is an 800 gallon tank that stores excavated mud from utility projects. There is clear evidence that mud mixture was released from the tank the day prior, traveled downhill about 100' through an RPA and until it hit a gravel park trail running along Taylor Run stream. The discharge then followed the path for another 300' until it discharged into Taylor Run. Contacted Fire Marshall, who immediately met on-site for an investigation. APD ran the plates of the trailers and tracked the owner to Stealth Construction, Inc. of Manassas. Fire Marshal gave them a NOV. City's Utility Inspector pulled their permit until they met all clean-up requirements. City also made them immediately put up silt fence along the entire 300' of trail before the end of the day. Site remediated successfully by contractor.
FIR2012-00179	02/23/12	Possible environmental crime release of silt/mud onto City property.	T&ES is monitoring mitigation of removal of dirt from trail and woods. Initial actions complete - silt fence installed by RP. Court action pending on charge of illegal dumping.
FIR2012-00188	03/01/12	Improper disposal of waste grease.	Visited restaurant but did not see evidence of a spill.

#	Date(s)	Description	Narrative and Result
OEQ 19446	3/1/2012	Erosion and sedimentation problem.	Erosion and sedimentation of adjacent property at 3001 Russell Road. Inadequate stormwater management resulting from change of terrain, increase in runoff rate due to concentrated flow onto adjacent property resulting in rill erosion and sedimentation. Apparent lack of compliance with Section 5-6-224 of Alexandria code, (a), (b)1, (d) 3&4 is resulting in damage to property. OEQ staff visited site on March 2 to investigate complaint. Forwarded complaint to Engineering, whom learned that Construction & Inspection has been involved with this issue and that the City Attorney is writing a response letter to the complainant.
OEQ 19687	3/13/2012	Rusty color in stream.	Investigated complaint and found evidence of oil, approximately 4' x 5' area, caught behind some trash blockage caused by a fallen tree limb. Contacted Fire Marshall who met onsite and took photos and documented incident. He said he has issues in this area in past due to adjacent industrial warehouses and industrial vehicles parked on public roads. Complaint logged and forwarded to EIU for further investigation, but area will be monitored closely in future.
OEQ 19858	3/19/2012	Sudsy water observed.	Visited site of complaint and did not observe any discharge or evidence of discharge. Did observe a newly installed 2" PVC pipe, coming from bottom wall running along sidewalk for about 12' and daylighting behind downspout. Code staff went to site and left notice for owner to contact the City. May require permit.
OEQ 19877	3/19/2012	Dumping of wash water into storm drain.	Observed employee of Charlene's Kitchen dumping / washing out shop-vac into storm drain inlet at intersection of King Street and West Street. Spoke to both employees at store and gave them warning, informing them that nothing other than stormwater is allowed down a storm drain. Explained to them that any discharge generated by the store would need to be discharged into the sanitary drain inside of the building.
FIR2012-00308	03/22/12	Received notification from TES of the discovery of a discharge near Holmes Run.	Material discharged is dust from a tile saw which was cleaned out next to Holmes Run. The discharge did not make it to the water way. Gave instructions to the superintendant to clean all material of the ground to prevent it from entering the water way.

#	Date(s)	Description	Narrative and Result
FIR2012-00314	03/23/12	Spoke with owner regarding dumping into sewer.	Responded to request by OEQ to visit Charlene's kitchen restaurant for an illegal dumping issue witnessed several days prior. Spoke to owner and advised procedures for cleaning filters and disposing of dirty water and storing waste oil.
FIR2012-00322	03/27/12	Underground tank leaking	Was requested to respond for the removal of an underground tank. Tank was removed and tank was corroded on three different locations. Once tank was removed approximately 20-30 gallons of oil was visible and was floating inside pit. Pollard Environmental will be doing the soil sampling and Atlas Environmental will be doing the hauling. DEQ was informed of spill.
OEQ 20218	3/28/2012	Wash water discharge.	Received a call from Fire Marshall stating that he caught employees of NT Auto Body washing vehicles in the parking lot and they were illegally discharging into the storm drain system. He gave them a verbal warning and told them that they must stop immediately unless the water was captured and disposed of properly. Both owners said they will stop washing cars immediately, and they will contact the City if they have any further questions.
OEQ 20222	3/28/2012	Wash water discharge.	Received a call from Fire Marshall stating that he caught employees of Georgetown Auto Service washing vehicles in the parking lot and they were illegally discharging into the storm drain system. Tony gave them a verbal warning and told them that they must stop immediately unless the water was captured and disposed of properly. Owner stated that he is planning to install a portable reclamation system in the building. Cars are not being washed until system is installed.
OEQ 20363	4/3/2012	Wash water discharge.	City received a call from neighbor stating that employees of Alexandria Bavarian Service are washing vehicles in the parking lot and discharging wash water into the storm drain system. OEQ staff met onsite with the owner and gave him a verbal warning and told them that he must stop washing vehicles outside immediately unless the water was captured and disposed of properly.

#	Date(s)	Description	Narrative and Result
OEQ 20366	4/3/2012	Wash water discharge.	Received a call from Fire Marshall stating that he caught employees of a mobile car wash washing vehicles in the parking lot at 1620 Prince Street and they were illegally discharging into the storm drain system. He also stated that they did not have a business license. Tony gave them a verbal warning and told them that they must stop immediately. He also stated that unless the water was captured and disposed of properly, outdoor car washing was not allowed. He asked staff from OEQ to go out and talk to the employees and give them some information about why he cannot discharge into the storm system. Meeting on site with manager stated that they will no longer wash vehicles at this location.
FIR2012-00348	04/06/12	Mobile car wash.	Witnessed three individuals washing cars in a parking lot. Issued stop work order. No containment for water runoff. Called and left message for owner to obtain business license and provide containment for water.
OEQ 20643	4/13/2012	Wash water discharge.	Received a call from Fire Marshall stating that he observed a large volume of water draining from the on-site car wash and sheet flowing across the parking lot and eventually entering a storm drain located in the south corner of the parcel. Fire Marshal gave them a verbal warning and he asked staff from OEQ to go out and talk to the service manager. The plan is to install a new, larger vehicle wash system. Until then, they plan to install a temporary berm with a sump pump that will reroute any wash water leaving the building back into the drain inside the car wash bay.
CMP2012-01426	04/16/12	Construction debris set out behind this residence.	Several bags of construction debris set out behind the fence in the alley. A few of the bags have torn and the debris is spilling into the alley. The debris looks like some sort of drywall work. NOV posted and mailed.
CMP2012-01444	4/17/2012	Suspicious activity behind restaurant.	Spoke to restaurant manager who said that items were being temporarily stored on steps so that mats could be washed inside the restaurant per their SUP. No sign of trash or standing water noted outside.
OEQ 20728	4/17/2012	Wash water discharge.	Observed wash water discharge leaving the parking lot of Euro Imports. Spoke with the owner and explained to him that unless the water was captured and disposed of properly, outdoor car washing was not allowed.

#	Date(s)	Description	Narrative and Result
FIR2012-00388	04/28/12	Suspected water based paint in creek at dead-end of N. Pickett St.	An investigation was conducted at the dead-end of North Pickett Street for cloudy water. The investigation revealed a white colored substance in the shallow creek located between Holmes Run and North Pickett Street. The substance is consistent with water based paint. No source of the discharge could be identified. The creek feeds into Holmes Run which may solicit calls from concerned residents regarding the discoloration of the water. Pending information leading to a suspect(s) this case is considered closed.
OEQ 21406	5/9/2012	Vehicle wash water.	Received a call from Fire Marshall stating that he observed an uncontained outdoor vehicle wash installed at the Shell gas station. Vehicles have been washed in the parking lot and they were illegally discharging into the storm drain system. Verbal warning made and the wash machine was roped off and put out of service until issue is resolved. The car wash was eventually removed.
OEQ 21407/ FIR2012-00407	5/9/2012	Dumping complaint.	Observed employees of Conklyns' Flowers dumping buckets of water into the parking lot, illegally entering storm drain system. Fire Marshall met onsite and owner was given a verbal warning. OEQ present at this meeting.
FIR2012-00408	5/10/2012	Carwash discharge issues.	Met with manager of Mercedes Benz dealership to discuss possible solutions to carwash water runoff. Also advised that using corrosive materials outside of the carwash bay is not allowed.
CMP2012-01838	5/18/2012	Cat litter dumping in Leider Park.	No witnesses to the actual dumping. City disposed of the cat litter appropriately.
FIR2012-00425	5/24/2012	Paint dumped into storm drain.	Responded to call about paint spilled into storm drain at the corner of Duke and Cambridge. Determined spill was dried and had been there for about am month. Not able to track perpetrator.
CMP2012-01910	05/30/12	Dumping food down storm drains.	Spoke to resident who advises again that she will not dump food in the storm drain. Contacted police for follow up since this has happened before.
CMP2012-01953	5/30/2012	Trash near storm drain.	Removed trash at storm drain located at 4536 Eisenhower Avenue.
CMP2012-01991	6/1/2012	Oil spill on sidewalk outside of restaurant.	Spoke to restaurant with instructions for proper clean up.

#	Date(s)	Description	Narrative and Result
FIR2012-00445	06/04/12	Responded to complaint of grease spill.	Visited property and found out that the stain on the sidewalk was caused when the trash cans are being emptied. Advised manager sidewalk will have to be cleaned and avoid spilling food products when emptying trash cans.
OEQ 22451	6/15/2012	Water quality complaint.	Investigation led to a curb inlet located in front of 4120 Seminary Road, where a blue tennis court matching the color of the discharge was observed. Assistant Fire Marshall took a sample of the blue discharge to send for lab testing. After investigating City staff was unable to locate source. We are still awaiting lab results of unknown substance.
FIR2012-00475	06/19/12	Call to regarding paint in the alley.	Responded to a report of paint dumped in the alley. The amount of paint dumped into the alley is insignificant and was cleaned up.
FIR2012-00472	06/20/12	Complaint of grease in storm sewer (from Rustico Restaurant).	Re-inspected area and FCC Environmental cleaned up parking area and storm drain.
FIR2012-00477	06/20/12	Complaint of illegal dumping (two complaints) - paint cans and spilled paint.	APD took subject into custody EDP. Subject had thrown materials out of his garage, with some of the contents into the alley. Prior incident involving a paint spill on 6/19/12. Code Admin also on site for PM issues. Neighbors contacted company that subject works for and they will handle removal of items from alley.
CMP2012-02387	6/27/2012	Trash and yard waste complaint.	City staff noted and handled minor dumping of grass clippings at two locations on Duke Street.

## 12 Land Disturbing Activities

The following table provides an annual summary of land-disturbing activities data tracked under Section II 4 c of the General Permit. This data is also provided to DCR on a monthly basis.

City Reference #	Location	Month/Year	Disturbed Acres
DSP2010-00009	Freedman's 1001 Washington St	7/8/2011	2.38
GRD2011-00038	411 E. Del Ray Ave.	7/21/2011	0.09
GRD2011-00034	407 Yale Drive	7/29/2011	0.26
GRD2011-00021	219 N. West St	8/3/2011	0.03

<b>City Reference #</b>	<b>Location</b>	<b>Month/Year</b>	<b>Disturbed Acres</b>
GRD2011-00035	1200 Janneys La	8/18/2011	0.75
DSP2010-00028	The Madison; 800 N. Henry St	8/5/2011	4.37
DSP2009-00006	The Calvert; 3110 Mt. Vernon Ave	9/29/2011	3.71
DSP2011-00003	James Bland. Phase 4- Block E	10/21/2011	2.30
GRD2011-00036	209 Pine Street	10/11/2011	0.19
GRD2011-00037	2805 Russell Road	10/27/2011	0.19
DSP2011-00008	Alexandria Interim Impound Lot and Vehicle Storage	10/21/2011	1.19
GRD2012-00002	309 / 315 N. Latham St.	11/4/2011	0.40
GRD2012-00004	23 Braddock Rd	11/30/2011	0.12
GRD2012-00005	107 W Monroe	1/3/2012	0.17
GRD2011-00033	5247 Seminary Rd	1/3/2012	0.08
GRD2012-00009	2306 Valley Dr	1/24/2012	0.16
GRD2010-00027	5400 Fillmore Ave	1/27/2012	0.29
GRD2012-00003	Potomac Yards; Landbay D - Grading	2/10/2012	3.92
GRD2012-00012	113/115 S. Lee St	2/22/2012	0.07
GRD2012-00001	605 Little St	3/5/2012	0.12
DSP2010-00002	923 King St - Building	4/11/2012	0.04
DSP2010-00027	Harris Teeter, 736 St Asaph	4/26/2012	2.33
GRD2012-00016	3310 Holly St	4/13/2012	1.19
GRD2012-00001	211 N. View Terrace	5/29/2012	0.14
GRD2012-00014	109 E. Walnut	5/31/2012	0.10
GRD2012-00018	429 Summers	5/18/2012	0.21
GRD2012-00019	610 W. Braddock	5/14/2012	0.45
GRD2012-00020	510 Cathedral	5/18/2012	0.31
GRD2012-00021	1425 Janney's Ln	5/31/2012	0.08
GRD2012-00026	BRT, Route 1	6/15/2012	0.16
<b>Total Sites:</b>	<b>30</b>	<b>Total Acres</b>	<b>25.8</b>

## 13 Information on Stormwater Management Facilities

The following tables provide a summary of new permanent stormwater management facilities brought on-line in PY4. The PY1, PY2, and PY3 annual reports contain information on previously installed stormwater management facilities in the City of Alexandria. As required in the General Permit, information for each facility includes BMP type, HUC, impaired water, and number of acres treated. Information for PY4 is also found as an Excel spreadsheet on a CD in the back pocket.

The first table provides information on non-single-family residential facilities constructed in the City. This represents 9.631 additional acres treated. The second table provides information on single-family residential (individual lot) facilities constructed in the City. This represents 0.7834 additional acres treated.

### Non-Single Family Stormwater Management Facilities

BMP ID	BMP TYPE	LOCATION	HUC	DISCHARGES TO	ACRES TREATED
2007-0030 01	Sand Filter	3512 Old Dominion Blvd.	PL25	Four Mile Run	0.244
2007-0030 02	Detention	3512 Old Dominion Blvd.	PL25	Four Mile Run	0.244
2011-0020 GRD 01	Stormceptor® Stormwater Treatment System	3510 Duke St.	PL26	Cameron Run	0.66
2009-0003 01	CDS® Stormwater Treatment System	4600 & 4604 Eisenhower Ave.	PL26	Cameron Run	2.46
2009-0003 02	CDS® Stormwater Treatment System	4600 & 4604 Eisenhower Ave.	PL26	Cameron Run	2.45
2010-0001 01	BayFilter™ Stormwater Filtration System	800 Montgomery St.	PL26	CSO - Hooffs Run / Cameron	1.73
2010-0001 02	Detention	800 Montgomery St.	PL26	CSO - Hooffs Run / Cameron	1.73
2009-0008 01	Flow Thru Planter Box	701 N. Columbus St.	PL26	CSO - Hooffs Run / Cameron	0.057
2009-0008 02	Flow Thru Planter Box	701 N. Columbus St.	PL26	CSO - Hooffs Run / Cameron	0.056
				<b>TOTAL</b>	<b>9.631</b>

Single Family Individual Lot Stormwater Management Facilities

BMP ID	BMP TYPE	LOCATION	HUC	DISCHARGES TO	ACRES TREATED
2011-0001 GRD 01	Sand Filter	720 South View Ter.	PL26	Taylor Run	0.083
2011-0002 GRD 01	Sand Filter	720A South View Ter.	PL26	Taylor Run	0.07
2011-0005 GRD 01	Flow Thru Planter Box	2909 Richmond Ln.	PL25	Four Mile Run	0.0626
2011-0010 GRD 01	Rain Barrel	30 Rosecrest Ave.	PL26	Timber Branch/Hooffs Run	0.004
2011-0010 GRD 02	Porous Pavers	30 Rosecrest Ave.	PL26	Timber Branch/Hooffs Run	
2011-0011 GRD 01	Vegetated Filter Strip	902 Little St.	PL26	Timber Branch/Hooffs Run	0.0925
2011-0011 GRD 02	Porous Pavers	902 Little St.	PL26	Timber Branch/Hooffs Run	0.0103
2011-0012 GRD 01	Flow Thru Planter Box	1700 Russell Rd.	PL26	Timber Branch/Hooffs Run	0.0207
2011-0012 GRD 02	Rain Barrel	1700 Russell Rd.	PL26	Timber Branch/Hooffs Run	0.00395
2011-0012 GRD 03	Rain Barrel	1700 Russell Rd.	PL26	Timber Branch/Hooffs Run	0.00395
2011-0013 GRD 01	Rain Barrel	902 Ramsey St.	PL26	Timber Branch/Hooffs Run	0.004
2011-0013 GRD 02	Rain Barrel	902 Ramsey St.	PL26	Timber Branch/Hooffs Run	0.004
2011-0013 GRD 03	Rain Barrel	902 Ramsey St.	PL26	Timber Branch/Hooffs Run	0.004
2011-0013 GRD 04	Porous Pavers	902 Ramsey St.	PL26	Timber Branch/Hooffs Run	
2011-0019 GRD 01	Flow Thru Planter Box	2522 King St.	PL26	Taylor Run	0.0077
2011-0019 GRD 02	Flow Thru Planter Box	2522 King St.	PL26	Taylor Run	0.0066
2011-0019 GRD 03	Flow Thru Planter Box	2522 King St.	PL26	Taylor Run	0.0083
2011-0019 GRD 04	Porous Pavers	2522 King St.	PL26	Taylor Run	0.0119
2011-0024 GRD 01	Rain Barrel	516-A E. Howell Ave.	PL28	Potomac River	0.004
2011-0024 GRD 02	Rain Barrel	516-A E. Howell Ave.	PL28	Potomac River	0.004
2011-0027	Rain Barrel	207 North View	PL26	Timber	0.004

BMP ID	BMP TYPE	LOCATION	HUC	DISCHARGES TO	ACRES TREATED
GRD 01		Terrace		Branch/Hooffs Run	
2011-0027 GRD 02	Porous Pavers	207 North View Terrace	PL26	Timber Branch/Hooffs Run	0.0137
2011-0030 GRD 01	Cistern	613 Braddock Rd.	PL26	Timber Branch	0.0798
2011-0033 GRD 01	Trench Sand Filter	5247 Seminary Rd.	PL25	Four Mile Run	0.0612
2011-0034 GRD 01	Cistern	407 Yale Dr.	PL26	Taylor Run	0.0225
2011-0034 GRD 02	Cistern	407 Yale Dr.	PL26	Taylor Run	0.0107
2011-0034 GRD 03	Rain Barrel	407 Yale Dr.	PL26	Taylor Run	0.00378
2011-0034 GRD 04	Rain Barrel	407 Yale Dr.	PL26	Taylor Run	0.00378
2011-0034 GRD 05	Rain Barrel	407 Yale Dr.	PL26	Taylor Run	0.00378
2011-0034 GRD 06	Rain Barrel	407 Yale Dr.	PL26	Taylor Run	0.00378
2011-0034 GRD 07	Rain Barrel	407 Yale Dr.	PL26	Taylor Run	0.00378
2011-0034 GRD 08	Rain Barrel	407 Yale Dr.	PL26	Taylor Run	0.0028
2011-0034 GRD 09	Rain Barrel	407 Yale Dr.	PL26	Taylor Run	0.0028
2011-0036 GRD 01	Rain Barrel	209 Pine St.	PL25	Four Mile Run	0.004
2011-0036 GRD 02	Rain Barrel	209 Pine St.	PL25	Four Mile Run	0.004
2011-0036 GRD 03	Porous Pavers	209 Pine St.	PL25	Four Mile Run	0.0304
2011-0037 GRD 01	Rain Barrel	2805 Russell Rd.	PL25	Four Mile Run	0.004
2011-0037 GRD 02	Rain Barrel	2805 Russell Rd.	PL25	Four Mile Run	0.004
2011-0037 GRD 03	Porous Pavers	2805 Russell Rd.	PL25	Four Mile Run	0.0145
2011-0038 GRD 01	Rain Barrel	411 E. Del Ray Ave.	PL28	Potomac River	0.004
2011-0038 GRD 02	Rain Barrel	411 E. Del Ray Ave.	PL28	Potomac River	0.004
2011-0038 GRD 03	Rain Barrel	411 E. Del Ray Ave.	PL28	Potomac River	0.004

BMP ID	BMP TYPE	LOCATION	HUC	DISCHARGES TO	ACRES TREATED
2011-0038 GRD 04	Rain Barrel	411 E. Del Ray Ave.	PL28	Potomac River	0.004
2011-0040 GRD 01	Trench Sand Filter	209 Duncan Ave.	PL26	Timber Branch/Hooffs Run	0.0367
2011-0040 GRD 02	Porous Pavers	209 Duncan Ave.	PL26	Timber Branch/Hooffs Run	0.0319
2011-0042 GRD 01	Trench Sand Filter	116 & 116-A E. Glebe Rd.	PL25	Four Mile Run	0.0301
2011-0042 GRD 02	Trench Sand Filter	116 & 116-A E. Glebe Rd.	PL25	Four Mile Run	0.0301
2011-0042 GRD 03	Porous Pavers	116 & 116-A E. Glebe Rd.	PL25	Four Mile Run	0.007
2011-0042 GRD 04	Porous Pavers	116 & 116-A E. Glebe Rd.	PL25	Four Mile Run	0.007
2011-0043 GRD 01	Vegetated Filter Strip	1800 Nicholson Ln.	PL26	Timber Branch/Hooffs Run	0.2157
2011-0043 GRD 02	Vegetated Filter Strip	1800 Nicholson Ln.	PL26	Timber Branch/Hooffs Run	0.0602
2011-0043 GRD 03	Vegetated Filter Strip	1800 Nicholson Ln.	PL26	Timber Branch/Hooffs Run	0.0289
				<b>TOTAL</b>	<b>1.1464</b>

## 14 New or Terminated Signed Agreements

There are no new or terminated signed agreements between the City of Alexandria and any third parties for the purpose of implementing minimum control measures.

## 15 Written Public Comments

No written comments were received on the PY3 Annual Report or during the public comment period on the MS4 Program Plan.

## APPENDIX A

Clean Water Partners 2011-2012 Program Summary

Alexandria eNews Examples

Screen Shot of Stormwater Web Page

Pet Owner Educational Brochure

PCB Educational Brochure for High Risk Property Owners

Sample Special Use Permit Language for PCB Screening During Development

Spanish Language Education Brochure



## APPENDIX B

FY 2011 Annual Report from the EPC

Agenda for April 16, 2012 and July 2, 2012 EPC Meetings

2012 Earth Day Press Release

2012 Earth Day Poster

Sample Stream Clean Up Press Releases and Flyers



## APPENDIX C

Screen Shot of the Service Request Portal

Screen Shot of the Permit Plan Program

Screen Shot of the Cityworks Program

HHW Brochure

Map and Spreadsheet of State-Permitted Discharges

Sample Special Use Permit Language Prohibiting Outdoor Cleaning of Kitchen Equipment

Summary of PY4 Outfall Reconnaissance Efforts



# APPENDIX D

No Materials for PY4



# APPENDIX E

Stormwater BMP Map

Sample Properly Executed BMP Monitoring and Maintenance Agreement

BMP Inspection Report



## APPENDIX F

Sample Agenda for the Environmental Industrial Unit Stormwater Pollution  
Prevention Training Workshop Sign-In Sheets

RP&CA Safety Conference Materials and Sign-In Sheet

Completed Pollution Prevention Inspection Checklists and Facility Summary Report



