

APPENDIX A

Updated Stormwater Education Brochure

FYI Alexandria Article – “Water Quality – Keeping Your Yard Green”

Clean Water Partners 2009-2010 Program Summary

Screen Shot of Plastic Bag Recycling Initiative

2010 Earth Force Youth Summit

Screen Shot of Stormwater Web Page

Meeting Summary on Potential Web Page Upgrades

Pet Owner Educational Brochure

PCB Educational Brochure for High Risk Property Owners

Spanish Language Education Brochure

The City's Stormwater Program Plan consists of six major elements, referred to as "minimum control measures," or MCMs for short. Specific measures to implement the MCMs are called "best management practices," or BMPs. These BMPs are part of a comprehensive plan to reduce pollutants discharged from the City's storm drainage system. Did you know that most of Alexandria's streams exceed Virginia's water quality standards for fecal coliform and/or E. coli? Pet waste left of the ground, wildlife, leaking pipes and illicit connections may contribute to this impairment.

How can I get involved?

You can get involved by (1) learning how to keep our streams clean by preventing pollution (2) participating in City-sponsored public hearings and input sessions, and (3) volunteering for cleanup events. Sign up for Environmental **eNews** for volunteer opportunities and to learn more about Eco-City Alexandria initiatives.

www.enews.alexandriava.gov

6 Minimum Control Measures of Stormwater Management Plan

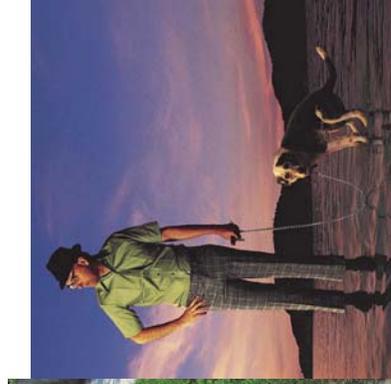
1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention and Good Housekeeping



Department of Transportation & Environmental Services
 Office of Environmental Quality
 301 King Street, Room 3000
 Alexandria, VA 22314
 Phone: 703-746-4071
 Fax: 703-519-5941

www.alexandriava.gov/Environment

Every Day Activities Can Contribute to Stormwater Pollution



ECO-CITY ALEXANDRIA

An Introduction to the City of Alexandria VSMP MS4 Permit Stormwater Management Program Plan

The Stormwater Management Plan

Public Education and Outreach: The City engages in a range of public education and outreach activities to inform and further educate the public and businesses about the impacts of stormwater on local streams. A focus of this efforts providing information on steps that citizens can take to reduce or eliminate stormwater pollution.

Public Involvement and Participation: Public involvement and participation is an essential part of the City's Plan. The City provides annual updates to the Environmental Policy Commission and provides an electronic form on City's web site for citizens to report pollution problems.

Illicit Discharge Detection and Elimination: By law, only stormwater is allowed in the stormwater system. As part of its program, the City has mapped all stormwater outfalls and developed a program to identify and eliminate illegal connections to the system.

Construction Site Stormwater Runoff Control: The City administers a local Erosion and Sediment Control Program to reduce stormwater pollution from construction sites. The City also requires all developers to control construction site waste such as litter generated by job site workers and equipment waste materials such as used parts and oils.

Post-Construction Storm Water Management: The City's Chesapeake Bay

Preservation Ordinance reduces pollution from development. Examples of stormwater controls include vegetative buffers, sand filters, and bioretention filters. Low impact development (LID) and Environmental Site Design (ESD) are techniques to mimic natural site characteristics and reduce impervious surfaces.

Pollution Prevention and Good Housekeeping: The City is required to ensure that government operations are conducted in a manner that protects water quality. In addition to revising standard operating procedures, the City will develop Stormwater Pollution Prevention Plans for many City facilities.

Why manage stormwater?

According to the U.S. Environmental Protection Agency's 2004 National Water Quality Inventory, approximately 44% of surveyed U.S. rivers and streams are considered impaired because they do not meet basic water quality standards. In Alexandria, Four Mile Run, Hunting Creek/Cameron Run, and Holmes Run are considered impaired due to bacteria by the Virginia Department of Environmental Quality. A leading source of this impairment is polluted stormwater. This pollution comes from different activities that are part of our daily routine. Almost every street, lawn, driveway, rooftop, and parking lot in Alexandria is connected to a storm drain. When it rains, the stormwater mixes with spilled motor oil, pet waste, pesticides, paint, grease, and litter. This polluted stormwater is discharged directly to our local streams, which eventually flow to the Potomac River and the Chesapeake Bay.



Storm drains are neighborhood entry points to the stormwater system.

What are NPDES requirements?

In response to the growing threat of stormwater pollution to water quality, Congress enacted the National Pollutant Discharge Elimination System (NPDES) under the federal Clean



Water Act. NPDES requires local governments to obtain a permit to discharge from the storm sewer system to Waters of the U.S. In Virginia, the Department of Conservation and Recreation is responsible for enforcing these NPDES requirements through the Virginia Stormwater Management Program. Under this program, each regulated government operating a municipal separate storm sewer (MS4) must develop an MS4 Stormwater Management Program Plan to control pollution to the "maximum extent practicable."

Underground pipes eventually discharge stormwater to a local stream. If the stormwater is polluted, our local streams are also polluted.

All streams in Alexandria drain to the Potomac River and the Chesapeake Bay. Each year, millions of dollars are spent to clean and restore the Bay.



All streams in Alexandria drain to the Potomac River and the Chesapeake Bay. Each year, millions of dollars are spent to clean and restore the Bay.

Do Your Share for Clean Air!

On May 1, the Air Quality Action season began. Air Quality Action Days are called when air quality in our region is expected to reach unhealthy levels. This happens when hot, humid, and stagnant summer weather contributes to the formation of air pollution. Poor air quality affects everyone, particularly children and the elderly, and individuals with respiratory and heart ailments.

From May to September, regional air quality is forecast for the following day and coded as purple, red, orange, yellow or green (purple and red are the unhealthiest). Look for Air Quality Action Days notifications on local TV and radio news stations, in weather forecasts, or at alexandriava.gov. When a Code Red day is forecast, take the following actions to improve our City and regional air quality.

- Telecommute or take public transit
- Avoid mowing lawns with gas-powered mowers
- Delay painting projects until later in the evening
- Use a gas or electric grill instead of charcoal
- Refuel cars after 7:00 p.m.



For more information, contact Erica Bannerman, Senior Air Pollution Control Specialist, at 703.746.4067 or erica.bannerman@alexandriava.gov.

BRAC-133 Draft Transportation Plan Released

Continued from page 1

about local transit use, and lacks a funding plan. The City has also noted that the TMP lacks commitment to improving bus service from King Street Metro and from Franconia-Springfield Metro, and establishing public bus service between BRAC-133 and the Pentagon. In addition, the City found that the plan does not provide an alternative TMP consistent with legislation introduced by Representative James P. Moran and approved by the U.S. House of Representatives that would limit the number of parking spaces initially used by BRAC-133 to 1,000.

It is clear, City staff have concluded, that the Department of Defense's experience with developing robust transportation management plans is lacking, in that the

Draft TMP does not meet the standards that the private sector customarily achieves in the Washington, D.C. metropolitan area.

A sub-committee of the BRAC-133 Advisory Committee and City staff are holding meetings with the Department of Defense TMP Project staff this month and in July to seek revisions to the Draft Transportation Management Plan to address the issues the City has identified. On July 30, the Army will submit a TMP to the National Capital Planning Commission for review and approval, and it will be presented for final comments at the Commission's September meeting. For more information, or to review the draft TMP, visit www.alexandriava.gov/BRAC.

Water Quality: Keeping Your Yard "Green"

Proper lawn and garden care is an essential part of protecting our local water quality and the health of the Potomac River and Chesapeake Bay. Fertilizer contains nutrients that may contribute to algal blooms that kill fish and reduce the productive habitat in the Chesapeake Bay and local tributaries. Plants can only use a certain percentage of applied fertilizer. Excess fertilizer applied before a rain event and fertilizer spread on hard surfaces may pollute water resources. Ultimately, these nutrients end up in our local streams and the Chesapeake Bay and may contribute to algal blooms that harm aquatic life by depleting oxygen levels and creating dead zones.

What can you do?

- Fertilize your lawn in the fall, if at all
- Test your soil first before fertilizing (test kits available from the Alexandria Local Cooperative Extension)
- Don't fertilize right before large rain events
- Select fertilizers that have low or no phosphorus
- Read and follow instructions on the label
- Avoid spreading fertilizer on concrete or paved areas and sweep excess off of hard surfaces to grass

For more information about water quality, contact Jesse Maines, Watershed Quality Compliance Specialist, at 703.746.4071 or jesse.maines@alexandriava.gov.



TAKE THE TEST TAKE CONTROL

National HIV Testing Day June 27

The Alexandria Health Department offers **FREE and CONFIDENTIAL** testing on:

Wednesday afternoons, 1:00 – 3:00 p.m.,
Thursday mornings, 9:00 – 10:30 a.m., and
Thursday evenings, 5:00 – 6:30 p.m.

For more information on HIV testing, please call 703.746.4839. Other testing site information is available at www.hivtest.org.

Clean Water Partners 2009-2010 Regional Stormwater Education Campaign Summary

In 2010, the City of Alexandria continued to support the Northern Virginia Clean Water Partners regional stormwater education campaign. By pooling outreach funds with other jurisdictions to reach a wider audience, the campaign has used radio and internet advertising to reduce pollution-causing behaviors among Northern Virginia residents. Surveys during prior years of the campaign have demonstrated that of residents that heard the radio ad, on average 15 percent said they were more careful with fertilizer, 12 percent mention they no longer dump used motor oil or recycle it, and 11 percent said they picked up after their pet more frequently as a result of the advertisement's messages. Eighty-one percent of people hearing the ad said they thought it would be effective in changing behavior.

While the use of radio advertising has been effective, recent data show that traditional media outlets (television, radio, and print media) are not seeing the widespread viewer, listener, and readership that they did five years ago. Since 2009, the campaign partners decided to use online advertising through search engines and social networking sites in addition to radio advertising to get their messages out to the public.

For the 2010 campaign, the Partners decided to focus more specifically on the issue of pet waste, by creating a web Blog about dogs (<http://www.northern-virginia-dog-blog.com/>). The Dog Blog features interesting articles about dogs, with the message about picking up pet waste woven into the articles a specific number of times per month. The partners will also feature several contests on the Blog as well, to encourage viral marketing of the Blog amongst residents of Northern Virginia. The contests will take place in September and October, 2010.

Through August 2010, the dog blog has had 3,693 views. A trivia quiz was created and featured on the Blog, and 328 people completed the trivia quiz. The trivia quiz included a question about what dog owners should do with their pet waste, which 87 percent of people completing the quiz answered correctly. As of July 31, 2010, the Dog Blog received many comments and a total of 55 site visitors completed a poll question.

The Only Rain web site (www.onlyrain.org) that was created in 2009 was enhanced for the 2010 campaign, with new information and links to the dog blog. Throughout fiscal year 2010, the Only Rain web site had 5,708 unique visitors and over 6,300 total visits.

In 2010, the Partners also selected a new radio public service advertisement "Dog Beep", which is scheduled to air in October, 2010. The City of Los Angeles' Department of Public Works produced "Dog Beep" and provided permission for the Partners to feature it in the DC area. The Partner will conduct a telephone survey following the radio campaign to measure effectiveness at increasing awareness and changing behaviors. Additionally, the ad will feature an action-oriented tagline at the end to remind residents that storm drains flow to local streams, and includes the web site address for more information.

Remember, what goes down the storm drain flows to the Potomac River and Occoquan Reservoir, our sources of drinking water. **So please pick up after your pet!** Brought to you by the Northern Virginia Clean Water Partners, representing local governments, water and sewer authorities, and Northern Virginia Regional Commission. www.onlyrain.org

The total cost of the 2009 campaign is \$120,000; the total cost for the 2010 campaign is \$105,000. The effort is funded by 11 local governments and three independent sanitary and drinking water authorities. In addition to the local contributions, the Partners received approximately \$150,000 in negotiated unpaid media from the participating radio stations during the 2009 campaign. A similar negotiated contribution is anticipated for the radio component of the 2010 campaign.



[Flash Flood Watch](#) -- Updated 9/27/2010 3:25:58 PM



[City Government Phones and Computer Networks Back in Service](#) -- Updated 9/27/2010 11:44:28 AM



City of Alexandria, VA

Solid Waste & Recycling

Page updated Apr 27 2010 9:06 a.m.

Plastic Bag Recycling Initiative *Make the Right Choice... One Plastic Bag at a Time!*

On This Page

- [What is the Alexandria Plastic Bag Recycling Initiative](#)
- [Alexandria Plastic Bag Recycling Initiative Sponsors](#)
- [Why Reduce, Reuse, and Recycle your Plastic Bags](#)
- [How to Reduce, Reuse, and Recycle your Plastic Bags](#)
- [How to become Involved!](#)
- [Plastic Bag Recycling & Reusable Bag Discount Locations](#)
- [What becomes of Recycled Plastic Bags](#)
- [America Recycles Day Contest and Pledge - Winners Announced!](#)
- [Other Informational Resources](#)

What's New

- **Thank you to all the Volunteers** who helped clean up Four Mile Run on April 10, 2010. [Learn more about the results!](#)
- **Upcoming Earth Day Celebration Events!:**
 - **Free Reusable Bag!** *Make the Right Choice! One Plastic Bag at a Time!* [Bring your plastic bags and film \(to be recycled\)](#) to the following events and receive a free reusable bag.
 - **West End Farmer's Market**, May 2 from 9 a.m. to 1 p.m.! [Learn More!](#)
 - **Spring for Alexandria Closet Clean Out!** Saturday, May 1, Alexandrians are invited to clean out their closets and cupboards as part of *Alexandria Gives*. Volunteers from local organizations will be on site to accept food, clothing and supplies. The event will also be accepting personal documents to be shredded for FREE! [Learn More!](#)
- **America Recycles Day Submission Contest and Pledge Drawing Winners have been selected!** [Learn who won and read their ideas!](#)

[Sign Up of eNews!](#) The City of Alexandria's [Free eNews](#) service provides you with electronic updates about environmental initiatives (Solid Waste & Recycling) plus over 80 additional topics that may interest you.

The City of Alexandria Plastic Bag Recycling Initiative

Mission: To Reduce, Reuse, and Recycle more plastic bags in the City of Alexandria by:

- Increasing environmental education to students, City employees and residents
- Creating and informing residents about opportunities to recycle more plastic bags
- Meeting the goals and objectives of the Eco-City Alexandria Initiative, to protect the environment

Vision: A litter and disposable bag free Alexandria.

The City of Alexandria received a \$10,000 grant from the State of Virginia to increase plastic bag recycling in the City. The City will use the grant funding to partner with local businesses to improve communication to residents about the benefits of reducing, reusing, and recycling plastic bags.

Results:

The Plastic Bag Recycling Initiative has collected plastic bags and given away reusable bags at the following events:



- **Initiative Kick off Event** September 21, 2009, we collected 386 gallons of plastic bags, equaling 64 pounds and gave away nearly 800 reusable bags.
- **Art on the Avenue** October 3, 2009, we collected about 95 gallons of plastic bags, equaling 15 pounds and gave away 660 reusable bags.
- **West End Farmers Market** October 25, 2009, we collected about 150 gallons of plastic bags, equaling 25 pounds and gave away 75 reusable bags.
- **America Recycles Day Event** at Whole Foods November 15, 2009, we collected about 95 gallons of plastic bags, equaling 15 pounds and gave away 200 reusable bags. Thank you to Whole Foods for Sponsoring the Event!
- **Schools Plastic Bag Recycling Competition** September 2009 to April 2010, the public school collected over 29,000 gallons of plastic bags, equaling 4,823 pounds. The top three schools were Lyles-Crouch Traditional Academy, Charles Barrett Elementary School, and Douglas MacArthur Elementary School. Thank you to all who participated!
- **Del Ray Farmers Market** April 17, 2010, we collected about 285 gallons of plastic bags, equaling 47 pounds and gave away 60 reusable bags.
- **Alexandria Earth Day Celebration** April 24, 2010, we collected about 95 gallons of plastic bags, equaling 15 pounds and gave away 30 reusable bags.

Total Tons of Plastic Bags Collected Totodate: 2.5 tons

The City has hosted two stream clean ups. [See results here.](#)

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Plastic Bag Recycling Initiative Sponsors



Virginia Retail Federation and Trex

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Why Reduce, Reuse and Recycle your Plastic Bags?

Plastic bags not only use a non-renewable resource, oil, but also, pollute the environment and food chain when not properly recycled.

Alexandria and U.S. Plastic Bag Figures and Facts

- Plastic bags degrade into smaller and more toxic pieces, leaching into our ground water and food chain ([National Geographic](#)).
- According to the EPA, over 380 billion plastic bags, sacks and wraps are consumed in the U.S. each year.
- Alexandrians use approximately 186 Million plastic bags a year, enough to fill City Hall! ([Natural Environment.Com](#)).
- According to *The Wall Street Journal*, the U.S. goes through 100 billion plastic shopping bags annually. An estimated 12 million barrels of oil are required to make that many plastic bags.

- Plastic bags harm sea turtle and other marine animal, when animals mistake them for food or become entangled([EPA](#)).



- Only 9 percent nation wide are recycled ([EPA](#))
- The Industry figures show 90 percent of all grocery bags are plastic (www.plasticindustry.org).

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Make the Right Choice... Reduce, Reuse, and Recycle your Plastic Bags

There are simple steps, we can take to reduce waste and ensure that plastic bags do not end up as litter.

1. Reduce:

- Decline a bag at checkout, is a bag really necessary for a pack of gum?
- Avoid double bagging
- Use a reusable bag, check out local retailers who provide discounts for reusing bags!

2. Reuse: Reuse plastic bags as:

- Waste basket liners
- Lunch bags
- Pet clean up

3. Recycle: Recycling plastic bags and wraps is important because this valuable material can be made into dozens of useful new products such as low-maintenance fencing, decking, building & construction products, shopping carts and new bags!

Next time you head to your local grocer or retailer, remember to return:

- Grocery/shopping bags (no dark colored or black bags)
- Dry-cleaning bags
- Clean/empty produce and bread bags
- Wraps from paper towels, bathroom tissue, napkins, diapers, bottled water cartons
- Plastic bags that delivered the newspaper.

4. Get Involved!: Plastic bags are local problem, as well as, a global problem.

The City of Alexandria, as well as other organizations such as the [Alice Ferguson Foundation](#), organize local volunteers to clean up along City waterways. Upcoming volunteer opportunities include:

- [Alice Ferguson Foundation as part of the Annual Potomac River Watershed Clean Up.](#)
- Consider adopting-a-block through the City Adopt-a-Block program. [Learn More!](#)

Homles Run Stream Clean Up

On **November 14, 2009** despite the dreary start, 35 volunteers including individuals, City employees, families and Girl Scout Troop 168 helped clean up Holmes Run as part of **America Recycles Day** and the Plastic Bag Recycling Initiative. These volunteers collected:

- 30 full bags of litter including
- 345 plastic bags,
- numerous bottles and cans,

- a camera, baseball bat, soccer ball, gardening supplies, and a tire.

Thank you to Whole Foods for sponsoring the breakfast goodies.

Four Mile Run Stream Clean Up

On **April 10, 2010**, 87 volunteers helped clean up Four Mile Run, as part of the 22nd Annual Potomac River Watershed Clean Up and the Plastic Bag Recycling Initiative. These volunteers collected:

- 157 full bags of litter
- 777 plastic bags
- a shopping cart, bike, and an orange work cone



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Learn More About Local Retailers who are Reducing, Reusing, and Recycling Plastic Bags

Many grocers and retailers now offer plastic bag recycling collection programs that allow shoppers to return their used plastic bags and product wraps to be recycled. In most stores, plastic bag recycling containers are located at the front entrance or near checkout areas.

Business Name	Location	Accepts Plastic Bags for Recycling	Gives Discount for Reusable Bags	Sells Reusable Bags
Presto Valet	1623 N. Quaker Lane	Yes; plastic dry cleaning bags and wire hangers	No	Yes; sells reusable dry cleaning bags
Whole Foods	1700 Duke Street	Yes	Yes; \$.05 for each bag	Yes
MOM's	3831 Mount Vernon Avenue	Yes	Yes; \$.05 for paper bags/\$.10 for totes	Yes
Trader Joes	612 N. Saint Asaph Street	No	No	Yes
Giant	425 E. Monroe Avenue	Yes	Yes; \$.05 for each bag	Yes
	530 First Street	Yes	Yes; \$.05 for each bag	Yes
	3131 Duke Street	Yes	Yes; \$.05 for each bag	Yes
	3680 King Street	Yes	Yes; \$.05 for each bag	Yes
Safeway	5730 Edsall Road	Yes	Yes; \$.05 for each bag	Yes
	1476 Beauregard Street	Yes	Yes; \$.05 for each bag	Yes
	500 S. Royal Street	Yes	No	Yes
Shoppers	3526 King Street	Yes	No	Yes
	3801 Jefferson Davis Highway	Yes	Yes; \$.05 for each bag	Yes
Staples	3155 Duke Street	Yes	No	Yes
	3301 Jefferson Davis Highway	Yes	No	Yes
Harris Teeters	4641 Duke Street	Yes	No	Yes

*Please call 703-746-4410. the Solid Waste Division if you know of another location/business that accepts plastic bags for recycling.

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What Becomes of Your Recycled Plastic Bags

Plastic bags are recycled into many different products. Most plastic bags are recycled into composite lumber through companies such as Trex. Plastic bags can also be reprocessed into small pellets or post consumer resin, which can become feed stock for a variety of products such as new bags, pallets, containers, crates and pipes.

Recycled bags that are turned into composite lumber, are generally comprised of two equal substances: sawdust and plastic bags. The lumber made from these two recycled substances is used to make decking, door and window frames. When the recycling center begins the recycling process, it melts down the plastic. Next, the plastic is forced through an extruder, a machine that squeezes the plastic into long noodle-like shapes or small pieces. The extruder die molds the plastic before it is cut with a knife. Finally, the plastic exists in a form of composite lumber or tiny pellets that can be manufactured into other plastic items. Learn more about the process at [Earth 9-11](#).

The City of Alexandria has partnered with Trex, an alternative lumber manufacturer, to increase plastic bag recycling in the city. Trex receives its plastic and wood fibers from reclaimed or recycled resources, including sawdust and used pallets from woodworking operations, and recycled plastic grocery bags from all over the country. Trex is located locally in Winchester, VA. For more information about Trex, visit: www.Trex.com.



Trex
How outdoor living should feel.



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America Recycles Day Pledge and Contest - Make the Right Choice! One Plastic Bag at a Time!

The three R's, Reduce, Reuse, and Recycle are important to the sustainability of Alexandria and necessary components of any environmentally friendly city. The benefits include:

- Saving natural resources
- Preventing litter and pollution
- Protecting wildlife and the environment

By making simple choices at home, school, work and the grocery store can help save resources, reduce pollution and improve the beauty of Alexandria.

America Recycles Day Pledge - Winners Announced!

Sisters at Polk Elementary are recognized for their recycling efforts, in conjunction with America Recycles Day Pledge! Naomi and Rebekah Corbin were drawn as the Local and Regional pledge drawing winners. [Watch the Award Presentation Here!](#)

America Recycles Day Local Pledge Card Winners: Beck Hensley, Steve Hartell, Naomi Corbin, Charlene Pritzker, Kara Macek, M Velten, Brett Sparklock, Elynn Simmons, Sue McIver, and Kathleen Chandler.

America Recycles Day Regional Pledge Card Winners: All local pledge cards were entered in Metropolitan Washington Council of Government ARD drawing. Two winners were chosen from two categories: All Ages and Student. Both names drawn are residents of the City of Alexandria. Congratulations to:

- **Rebekah Corbin, Student Winner:** She won a \$300 gift card to Performance Bike and her school will receive \$500 towards an environmental project.
- **Michelle Ryan, All Ages Winner:** She won a \$300 gift card to Performance Bike.

Reduce, Reuse, and Recycle your Plastic Bags Submissions:

There are many ways to use plastic bags that are friendly to the environment . . . A more innovative approach is to use them as packing material . . . [Click Here to Read More!](#)

Thank you to all who submitted tips and ideas about:

- Easy ways to reduce the number of plastic bags generated, littered or thrown away;
- Creative ways to reuse plastic bags; and
- Easy ways to recycle plastic bags (or remembering to).

Submission Contest Winners are: *Residential Category:* Jane Dionne, Kathryn Mukai, and Rachel Mohler; *Student Category:* Regan Mukai; *Employee Category:* Claudia Ruiz Fitzgerald, Beth Carton, and Karen Giuseppe.



America Recycles Day Local Pledge Drawing and Submission Contest Winners with their Prize! November 15, 2009

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Other Plastic Bag Recycling Resources

Below is other information related to disposable/plastic bag debate:

- [City of Alexandria Department of Transportation and Environmental Services Solid Waste Division](#) supports various environmental and recycling programs throughout the City. Learn more by visiting www.alexandriava.gov/solid_waste, call 703-746-4410 or email: askrobbie@alexandriava.gov.
- [Plastic Bag Recycling.Org](#): Supports recycling of plastic bags and film.
- [Progressive Bag Affiliates](#): The Progressive Bag Affiliates (PBA) of the American Chemistry Council (ACC) creates positive change in our communities by promoting the increased recycling of plastic bags as well as their proper use, reuse and disposal.
- [ReusableBag.Org](#): Supports the increase use of reusable bags.
- [Earth 9-11.com](#): Information about recycling various items around the Country. Materials can be search by zipcode and type.

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Capital Region Earth Force

invites you to attend our

6th Annual Youth Summit

Earth Force Youth: 21st Century Superheroes



Tuesday, April 27, 2010

9:30 a.m. – 1:30 p.m.

Potomac Overlook Regional Park

2845 Marcey Road

Arlington, VA 22207

(see reverse for map and rain location)

RSVP by April 16 to:

Kurt Moser, 703-684-0178

kmoser@earthforce.org

Additional information:

www.earthforce.org/section/offices/capitalregion

Summit Schedule

- | | |
|---------------|--|
| 9:30 – 10:00 | Welcome & opening remarks by Congressman Jim Moran |
| 10:00 – 12:00 | Partner presentations to students |
| 12:00 – 12:30 | Lunch (bring a bag lunch!) |
| 12:30 – 1:15 | Student action project presentations |
| 1:15 – 1:30 | Project of the Year Award & wrap-up |



Summit Partners

Alexandria Office of Environmental Quality • Alexandria Sanitation Authority • Calleva Outdoors
Delegate Adam Ebbin • Joe Keyser, America's Compost King • National Oceanic and Atmospheric Administration
Northern Virginia Conservation Trust • Potomac Environmental Research and Education Center
Potomac Overlook Regional Park • Rummel, Klepper & Kahl LLP • Virginia Department of Forestry



Special thanks to our leading sponsors:
National Oceanic and Atmospheric Administration
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and to Lockheed Martin, ABBA Design and Whole Foods Market.





City of Alexandria, VA

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Watershed Management

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About Watershed Management

According to the U.S. Environmental Protection Agency's 1996 National Water Quality Inventory, approximately 40% of surveyed U.S. water bodies are considered impaired because they do not meet basic water quality standards. In Alexandria, Four Mile Run, Hunting Creek/Cameron Run, and Holmes Run are considered impaired by the Virginia Department of Environmental Quality. A leading source of this impairment is polluted stormwater.

Where does the pollution come from? It comes from different activities that are part of our daily routine. Almost every street, lawn, driveway, rooftop, and parking lot in Alexandria is connected to a storm drain. When it rains, the stormwater mixes with spilled motor oil, pet waste, pesticides, paint, grease, and litter. This polluted stormwater is discharged directly to our local streams, which eventually flow to the Potomac River and the Chesapeake Bay.



The City has long been proactive in its efforts to control stormwater pollution. During the development of Alexandria's Stormwater Management Plan, the City engaged in an extensive assessment of existing stormwater management options, ordinances, and programming and evaluated them against National Pollutant Discharge Elimination System (NPDES) compliance requirements. While the NPDES mandate will require some new stormwater pollution prevention initiatives, many of the City's current pollution control activities serve as the foundation.

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Water Quality Management Supplement

On January 13, 2001, the City Council adopted the Water Quality Management Supplement to the Master Plan, thus, fulfilling the phase II requirements of the Chesapeake Bay Program and completing a process that began in late 1996. The Northern Virginia Region Commission (NVRC) in close collaboration with Alexandria's Department of Transportation and Environmental Services prepared the document. On March 19, 2001, the Chesapeake Bay Local Assistance Board "determined that the amendments made to the City of Alexandria's Comprehensive Plan have made its Phase II program consistent" with the Chesapeake Bay Preservation Act.

This document emphasizes Alexandria's water and habitat resources; it focuses on water quality impacts and directs the City, through specific initiatives, to preserve our existing resources and reclaim and better manage our watersheds. As proof of the City's commitment, the City Council has earmarked money for FY 2002, continuing through FY 2006, for environmental restoration.

- [Water Quality Management Supplement](#)

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Controlling Stormwater Pollution

Alexandria has been pro-active in controlling pollution in stormwater runoff (classified as "nonpoint source pollution" by the Federal EPA) for many years. Our Soil Erosion and Sediment Control Ordinance actually predates the Virginia law and regulations.

[Article XIII of the City Zoning Ordinance](#) contains the provisions of both the Virginia Chesapeake Bay Preservation Act and the Virginia Stormwater Management Act, making our developer best management practices (BMP)* program one of the most rigorous ones in the state. Over 1,000 acres of the City have been placed under developer-constructed BMP control since the ordinance was passed in 1992. In addition, the City staff has worked with developers to route the runoff of over 1,000 acres of previously developed properties through regional retrofit BMPs under our "Targets of Opportunity" program. Our staff estimates that these facilities are probably meeting the "Urban Retrofit" pollution reductions targets for the entire Virginia Shenandoah-Potomac Nutrient Reduction Strategy. The over 2,000 acres of BMP coverage (including approximately 1,150 acres of impervious surfaces) under these two programs is more than 20 percent of the total land area within the City. The staff has not been able to find another locality in the U.S. with this level of stormwater quality control.

Alexandria has also taken the lead in Northern Virginia in the development and employment of BMPs, which meet the needs of the "Ultra-Urban Environment" (a term that was coined by our staff in 1991). For several years, our Alexandria Supplement to the Northern Virginia BMP Handbook was the only reference available on treating stormwater pollution in heavily built-up areas, and we have sold hundreds of copies to jurisdictions all over the U.S. and as far distant as Australia and New Zealand. Of the approximately 500 BMPs installed within the City, most are either intermittent sand filters or bioretention filters. Our staff was pleased to write the design criteria for these facilities, which will be contained in the new Virginia Stormwater Management Manual.

Working with information provided by the U.S. Environmental Protection Agency, our staff has also published a Best Management Practices Manual for Automotive Related Industries. Compliance with the manual is required of all such businesses that require a Special Use Permit (SUP) by placing appropriate conditions on their SUPs.

The Alexandria Sanitation Authority (ASA) has also taken a proactive position in the reduction of nutrients reaching the Potomac from point sources. ASA is currently under construction on a five-year rehabilitation of their wastewater treatment plant that will incorporate state-of-the-art biological nutrient removal (BNR) of nitrogen compounds, elevating the entire plant to the upper limits of current technology.

In summary, Alexandria and ASA have gone well "beyond compliance" with their programs to protect the Chesapeake Bay and its tributaries in or adjacent to the City. The Federal/Multi-State Chesapeake Bay Program recognized the City's efforts by the award of a 1997 Community Innovation Award for the "Targets of Opportunity" Program.

Questions on Alexandria's stormwater quality program may be addressed to the City's Watershed Program Administrator, at 703-746-4065.

** A term used to describe measures to prevent or remove pollution from stormwater runoff. Facilities to remove pollution from runoff, such as wet ponds, detention facilities, infiltration facilities, sand filters, and "bioretention facilities" are known as "structural BMPs."*

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Why Your Involvement is Important

Stormwater near your home or business does not have to be an environmental hazard. The best way to help keep our streams, the Potomac River and the Chesapeake Bay clean is to not let water get polluted in the first place. Pollution prevention is critical to the improvement of water quality in our streams. Simple changes to our daily activities at home and at work will help improve the water quality for future generations.

Your involvement is the key to a successful water quality management program. There are many ways citizens can get involved

Top 10 things you can do to protect local streams and rivers:

1. Never throw or dump anything down storm drains, they are for rainwater only.
2. Don't litter. Put trash where it belongs.
3. Always clean up after your pets. Dispose of pet waste properly.
4. Keep your car well maintained and fix leaks as soon as possible.

5. Use fertilizers and pesticides sparingly.
6. Plant a tree. Trees provide a whole range of environmental benefits.
7. Properly dispose of Hazardous materials such as paint, oil, and antifreeze. Take used oil and automotive fluids to a local service station for recycling. The City's [Household Hazardous Waste & Electronics Recycling](#) program allows residents to properly dispose of hazardous materials. Use non-toxic chemicals when possible.
8. Don't blow grass clippings and leaves in the street or down a storm drain. Use the City's [Yard Waste Recycling programs](#).
9. Be our eyes and ears. If you observe a spill or hazardous materials in the stream, contact us at 703-746-4065.

Pass the pollution prevention message along and let others know how they can make a difference. HELP KEEP ALEXANDRIA BEAUTIFUL!

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What You Can Do

Get Involved

- Be our eyes and ears. Contact us if you observe a spill or other foreign materials in a stream or storm drain
- Report illegal dumping in storm drains, streams, or open spaces
- Become a volunteer stream monitor
- Participate in stream cleanups
- Start a storm drain marking program in your neighborhood
- Participate in local stream restoration and planting projects
- Join or support a local environmental group or "Friends of" group
- Educate your family, friends, and neighbors about the importance of protecting local water resources
- Have a neighborhood cleanup

Around Your Home or Business

- Properly use and dispose of household chemicals. The City provides a [Household Hazardous Waste & Electronics Recycling](#) program for proper disposal purposes.
- Keep streets and parks litter free. Any litter you drop in the street, or in a park will most likely end up in a local stream. Besides looking ugly, it can harm the environment and wildlife.
- Avoid washing paintbrushes under outdoor water faucets - this washes harmful chemicals into the streams. Never wash paint brushes into the storm drain.
- Wash your car on the grass where the soil absorbs the water, which can help nourish the lawn. Besides washing litter into the stormwater drain, hosing the car near the gutter also means polluting streams with detergents and other chemicals.
- Do not dump used motor oil in the storm drain - take to a recycling center.
- Keep your car well maintained and fix leaks as soon as possible. Your car is a source of stormwater pollution! For example, small amounts of tire and brake pad wear off and wash into the stream when it rains. Also, small leaks of oil and other fluids have harmful effects downstream.
- Take used oil and automotive fluids to a local service station for recycling or take advantage of the City's [Household Hazardous Waste and Electronics Recycling](#) program.
- Visit the City's Solid Waste & Recycling webpage for other things you can do around your [home](#) or at [work](#).

Around Your Yard

- Select slow release or insoluble fertilizers.
- Read and follow the instructions on the fertilizer bags.
- Test your soil.
- Ask your lawn care company to fertilize with care.

- Don't blow grass clippings and leaves in the street or down a storm drain. Leaves and lawn clippings washed into the streams decompose, creating food for bacteria in the water. This encourages the growth of harmful plant life, which can kill fish, as well as other plant life that help keep streams healthy.
- Fertilizers and pesticides can end up downstream and harm aquatic life. Use fertilizers and pesticides wisely so you can maintain a healthy lawn and prevent water pollution at the same time.
- Plant a tree. Trees provide a whole range of environmental benefits. Trees use nutrients and can prevent those nutrients from entering our streams. Their roots hold the soil in place, thereby preventing erosion.
- Landscape slopes, especially along stream banks to prevent erosion.
- Don't hook downspouts to the storm sewer system or onto paved surfaces.
- Use pesticides and fertilizers sparingly, apply to a targeted area.
- Dispose of leaves properly.
- Mulch grass clippings.
- When watering, avoid overspray onto paved surfaces.
- Use plants that are native to the area and more resistant to drought.

Pet Care

Did you know that many of Alexandria's streams exceed Virginia's standards for fecal coliform bacteria? Fecal coliform bacteria are present in the intestinal tracts of all warm-blooded animals and is an indicator that a potential health risk exists for individuals exposed to the water.

Pet waste is a significant source of fecal bacteria in Alexandria. When pet waste is not properly disposed of, it can wash into nearby streams or be carried by runoff into storm drains. These storm drains do not connect to treatment facilities. Instead, they drain directly into our streams and eventually the Chesapeake Bay.



The nutrients and organic matter in pet waste can also cause significant water quality degradation.

Excess nutrients can cause algae blooms that block sunlight and kill underwater vegetation. Decaying pet waste uses up dissolved oxygen in the water that fish and other aquatic species rely on to live.

Simple Ways to Love Your Pet and the Environment!

- *Always clean up after your pet* - Dog droppings in parks, on the street and even in your garden can all end up polluting our streams. It may not be the most pleasant chore, but it can prevent water pollution and it's the law. Failure to do so on public property is subject to a \$100 fine (City Code§5- 7 -46).
- *Dispose of pet waste properly* - Bag it and place pet waste in the trash; Flush pest waste down the toilet.
- *Never dispose of pet waste in a storm drain* - These drains lead directly to local waterways.
- *Encourage other pet owners to be responsible* - It is an important part of the responsibility of owning a pet. We all suffer the consequences of ignoring irresponsible pet owners.

The City has several managed dog exercise areas. Please contact the Alexandria Department of Recreation, Parks and Cultural Activities at 703.838.4943 or see [Dog Parks in Alexandria](#).

If we each do a little, it can add up to a lot. For more information, contact OEQ at 703-746-4065.

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Combined Sewer Systems

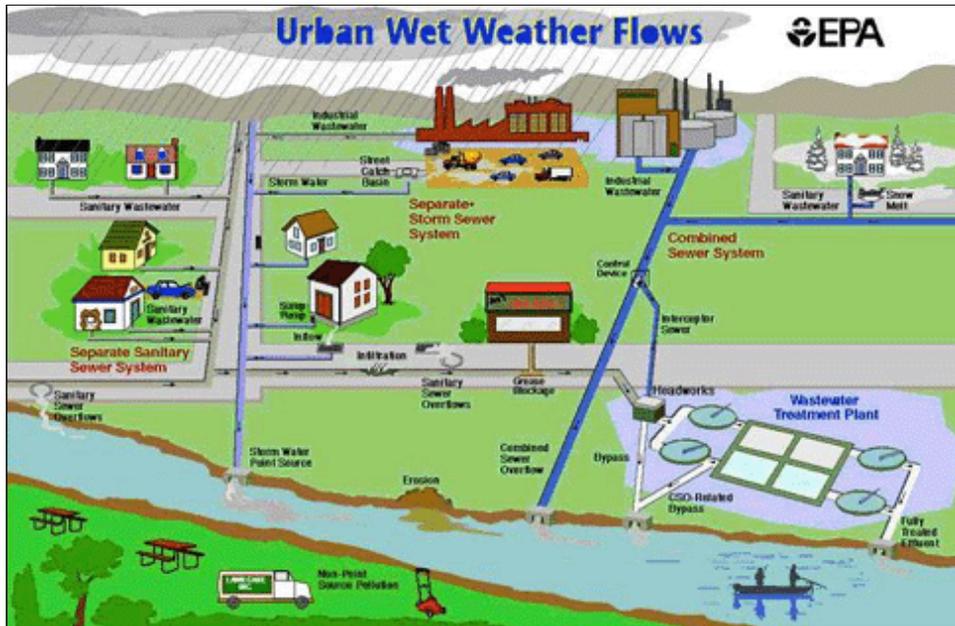
There are two types of storm sewer systems in the City of Alexandria – a combined sewer system, and a separate sewer system. Separate sewer systems consist of two pipes. One pipe conveys stormwater runoff from storm drains to local waterways with little or no treatment to remove pollutants. The other pipe conveys sanitary sewage to a local wastewater treatment plant. Combined sewer systems (CSS) have only one pipe which conveys both sewage / greywater and stormwater to a local wastewater treatment plant.

When the City of Alexandria was originally developed, the use of CSS was a common practice. In older parts of the City, combined sewers carry both sewage and stormwater runoff to the Alexandria Sanitation Authority (ASA) wastewater treatment plant. During heavy rains, overflows can

occur from these combined sewers which results in stormwater runoff and sewage / greywater being discharged into the Potomac via local streams. The City has an ongoing monitoring program to confirm that the overflows do not result in violation of water quality standards.

Over time and through the passage of the [Clean Water Act](#) and other regulations by the [Environmental Protection Agency \(EPA\)](#), the City of Alexandria began to use both separate and combined sewer systems. Separation of the existing CSS is a priority for the City of Alexandria today.

The two types of sewer systems are illustrated below.



source: www.epa.gov

The map below shows where remaining CSS are located in the City of Alexandria.

The map, titled "Overview Map of Combined & Sanitary Sewer System", shows the geographic layout of the sewer infrastructure in Alexandria, Virginia. Key features include:

- Major Roads:** Shirley Memorial Hwy (I-395), Route 1, Duke St, King St, and Capital Beltway (I-495).
- Service Areas:**
 - Area Served by Separate Sanitary and Storm Sewers:** A large central area.
 - Separate Sanitary Connected to CSS:** A smaller area to the east.
 - Combined Sewer Service Area:** Located along the Potomac River.
- Water Bodies:** The Potomac River is shown on the right side of the map.

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Erosion & Sediment Control

What is Erosion?

Soil erosion is the process of detachment and transportation of soil materials by water, wind, ice and gravity. When natural landscape is developed into houses, subdivisions, shopping centers, roads and parking lots, these land use conversions are collectively referred to as urbanization. Water-generated, accelerated erosion is unquestionably the most severe erosion in areas undergoing urbanization. Erosion problems associated with construction activities include water pollution, flooding, stream channel damage, decreased groundwater storage, slope failures, damage to adjacent and/or downstream properties, and the time and costs associated with addressing these issues

What is Erosion and Sediment Control?

Successful minimization of these impacts can be achieved by implementing Erosion and Sediment Control (ESC) measures on construction sites to prevent soil movement/loss, enhance project aesthetics, reduce complaints, and most importantly, eliminate appreciable damage to off-site receiving channels, property and natural resources.

The basis of the City's efforts to control runoff from construction sites is the City's Erosion & Sediment Control Program and the City's Chesapeake Bay Preservation Act compliance program. Each program is designed to meet State mandates for erosion and sediment control and water quality protection. These programs require that any construction project that disturbs at least 2,500 square feet have a City approved construction pollution prevention plan and install appropriate construction site runoff controls to meet the goal of reduced pollutant discharge to the City's streams.

Due to their 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.

Controlling sediment and debris at construction sites has many benefits in addition to avoiding environmental degradation. These benefits include reducing mud in the street, loose litter, and reduction of sediment and debris in storm sewers.



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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 has been revised 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 2008-2009

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 is from July 1, 2008 to June 30, 2009.

[MS4 Annual Report 2008-2009 Main Body](#)

[MS4 Annual Report 2008-2009 Appendix A](#)

[MS4 Annual Report 2008-2009 Appendix B](#)

[MS4 Annual Report 2008-2009 Appendix C](#)

[MS4 Annual Report 2008-2009 Appendix D](#)

[MS4 Annual Report 2008-2009 Appendix E](#)

[MS4 Annual Report 2008-2009 Appendix F](#)

[MS4 Annual Report 2008-2009 Appendix G](#)

Public Education and Outreach

The City of Alexandria strives to educate and inform the public on the importance of our local waterways, watersheds, and stormwater related issues through brochures, televised messages, and signs.

The City has put together several brochures designed to educate the public on the various ways they can help reduce the impact of pollutants to local streams and waterways.

Scrolling text messages aired on the City's government access channel (Comcast Cable channel 70) provide the public with useful tips and key actions that will help reduce the impact of pollutants and protect local waterways.



Signs have been placed throughout the City along roadways at major stream crossings to inform the public on the names of local streams and their associated watershed. Additional signs placed in public parks adjacent to City streams encourage "no dumping" of litter and debris. The City also hopes to bring attention to the Spanish speaking community on the importance of our local streams and how they can be protected. Bilingual "No Dumping" signs have been placed in various areas of the City to educate both the English and Spanish speaking public that it is not acceptable to dump litter, debris, or wastes into the local streams.

A similar bilingual message is included on markers placed on inlets and storm drains throughout the City to prevent the dumping of trash, oil, dog waste, etc into the drain.

[Storm Drain Markers](#)

Public Involvement and Participation

You can make a difference in the condition of local streams and waterways by reducing pollution, getting involved in local events and organizations, and reporting pollution problems or concerns using our comment & complaint form. Most stormwater discharges to our streams with little or no treatment to remove pollutants. Therefore, prevention of pollution is critical to the improvement of water quality in our streams. There are simple steps you can take around your home or business that will have a positive impact on the health of the waterways in Alexandria.

Your involvement is the key to a successful stormwater management program. There are many ways citizens can get involved:

- [Watershed Stewardship](#)
- [Four Mile Run Restoration Project](#)
- [Household Hazardous Waste and Electronics Recycling](#)
- Stream Cleanups (Sign up for [Environmental News](#) for the latest events.)
- [Yard Waste Recycling Program](#)
 - Curbside Lead Collection
 - Composting
 - Grasscycling
 - Christmas Tree Collection
 - Spring Leaf & Wood Mulch Program
- [Calendar of upcoming events](#)

If you have questions or comments, please contact the Office of Environmental Quality (OEQ) at 703-746-4065.

Illicit Discharge Detection and Elimination

Only stormwater is allowed in the storm sewer system. An illicit discharge is defined as any discharge to the municipal separate storm sewer system that is not composed entirely of stormwater, except for discharges allowed under a National Pollutant Discharge Elimination System (NPDES) permit.

Non-stormwater discharges to the storm sewer system occur most often through illegal connections to the storm sewer system or through illegal dumping activities. Because of these discharges, contaminated stormwater enters into storm drains or directly into local waters before receiving treatment from a wastewater treatment plant. Illicit connections may be intentional or may be unknown to the business owner, as is often the case with floor drain connections.



The City of Alexandria has mapped all waterways and stormwater outfalls. This program identified discharge points to help eliminate illegal connections to the system and discharges to our local streams. If you have any concerns about illicit discharge, suspect a problem, or notice something suspicious such as stormwater that is highly discolored, cloudy, and/or has a strong smell, please contact OEQ at 703-746-4065.

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.

For more information about controlling construction site run-off click on the following links:

- [Chesapeake Bay Preservation Act](#)
- [City of Alexandria Environmental Management Ordinance](#)
- [City of Alexandria Erosion and Sediment Control Ordinance](#)
- [Virginia Stormwater Management Program \(VSMP\)](#)
- [DCR Construction General Permit](#)
- Have you seen erosion or other pollutants discharging from a construction site? [Let us know!](#)

For more information on Erosion and Sediment Control, contact the Construction and Inspection Division at 703-746-4035 . For information on the City's Chesapeake Bay Preservation program, contact OEQ at 703-746-4065.

Post-Construction Stormwater Management Regulations

Post-construction runoff control in areas that have undergone development or redevelopment is necessary because runoff from these areas has been shown to significantly impact receiving streams.

Stormwater management regulations are designed to reduce pollution from development. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to streams. In addition, areas undergoing development or redevelopment often result in increased impervious surfaces. Impervious surfaces, such as roofs, parking lots, and roads, increase the quantity of runoff generated by preventing water from filtering through vegetation and soil. This can result in stream bank erosion and downstream flooding, which often lead to a loss of aquatic life and damage to property.



The City has long required that development and redevelopment projects implement stormwater facility Best Management Practices (BMPs) to minimize the increase of pollutants and runoff to the City's streams. Examples of BMPs and stormwater controls include stormwater wet/dry detention ponds, vegetative buffers, bioretention areas, hydrodynamic structures, sand filters, cluster development to retain open space, and design standards that promote stream buffers and reduce impervious surfaces. The City also encourages a "tool box" approach to stormwater quality when site conditions and circumstances permit. This approach includes stream restoration, vegetated buffer enhancement, and constructing green roofs.

Ongoing maintenance of BMPs is required to ensure that they continue to function as designed. Detention ponds lose capacity as sediment and pollutants are captured and accumulate in the pond. Sand filters can clog with sediment, oil, and organic matter such as leaves and lawn clippings. Bioretention areas can lose their capacity to infiltrate stormwater. After the development is complete, the responsibility for maintenance is passed on to the occupants of the development through the BMP Maintenance agreement. Frequently, the occupants, be it a business or homeowners association, are unaware of their obligation to provide maintenance and/or unaware of the proper procedures to inspect and maintain BMPs. The

City can assist in helping BMP owners / operators understand their maintenance obligations and can provide technical guidance for inspecting and maintaining BMPs.

- Alexandria Supplement to Northern VA BMP Handbook
 - [Chapter 1](#)
 - [Chapter 2](#)
 - [Chapter 3](#)
 - [Chapter 4](#)
 - [Glossary](#)
- [Northern Virginia BMP Handbook](#)
- [NVRC Guidebook](#)
- [City of Alexandria BMP Monitoring and Maintenance Agreement](#)

For more information, contact OEQ at 703-746-4065.

Pollution Prevention for Municipal Activities

In doing its part to help minimize stormwater pollution, the City evaluates its own operations to minimize stormwater pollution and protect water quality. This includes performing assessments of City facilities and providing pollution prevention and good housekeeping training for relevant City employees to ensure good practices are used on City construction and maintenance projects. Training topics include the proper storage, handling, and usage of material to minimize the potential for stormwater pollution. In addition, the City requires contractors working for the City to implement pollution prevention and good housekeeping measures on City projects. The City has developed Stormwater Pollution Prevention Plans (SWPPP) for its Transportation and Environmental Services operations facilities.

For more information, contact OEQ at 703-746-4065.

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MEETING AGENDA

OEQ Website Review

May 18, 2010

3:00-4:00p

City Hall, Room 3200

Invitees: T&ES, OEQ, OOC

Discussion:

1. Discussion of content and format for OEQ website updates; increase content
2. What can OEQ do better?
 - a. More frequent updates – *The “What’s New” section should updated more frequently and kept current*
 - b. Better education and outreach content and opportunities – *OEQ eNews will be sent out more frequently with volunteer events, tips and other content. A webpage of volunteer activities the city sponsors and dates when they are coming up will be created. Social media will also be used to get the word out.*
 - c. More public involvement – *OEQ staff is working with the EPC to create a standing volunteer group as a resource for more public involvement and greater opportunities. The Communication Office has instituted a web-based “town hall” tool that can be used for public interaction. Working with GIS staff, we are working on geo-locating and identifying those storm drains that have been marked and providing this in the public GIS tool. This will take some work.*
 - d. Current issues and topics
 - i. Chesapeake Bay topics
 - ii. Other TMDLS
 - iii. PPCP
 - iv. Conservation

OEQ will provide information Chesapeake Bay and local impairments and interesting topics to better inform the public on what steps they can take to be a good steward of the water environment and educating them on personal accountability for impacts, as well as reporting possible illicit activities. PPCP and other emerging containments can be discussed, eg. “How to properly dispose of old medicine”, water quality, possible effects, etc
OEQ will build on the water conservation webpage that has been created; as well as the rain barrel webpage.

3. Properly crediting outside sources for content

Use MLA and other accepted styles to properly credit photos and other content.

4. Calendar tool status or use of other calendars

e-Gov is working on a calendar widget that should be available in the near future. OEQ will have a link to the overall City calendar, as well as a calendar tool that will be present on the OEQ website for listing activities, meeting, etc; and will be able to filter by category or type of event.

5. Website use to sign up Cleanup Event volunteers next Spring

A ghost email can be created for volunteer sign up. This will make it easier to manage the responses. Data will continue to be posted on the website for yearly events.

6. Begin discussion of “Adopt – a – Run” program web tools

Groups can adopt a section of stream and hold their own informal cleanup events. OEQ will support these with supplies and will provide date/time information as publicity if group desires. OEQ will also coordinate with SW to collect bags. Group will report date, time, number of volunteers, hours worked and bags of trash. Tools are not available at this time to sign up and report info via the web. OEQ will launch the program (consistent with the Eco-City Action Plan) and create an Adopt-a-Run webpage. Social media, eNews, City’s main webpage, and other outlets will be used to promote the program. OEQ will maintain the web-based list Adopt-a-Run participants and totals can be added to a linked spreadsheet. Database information will be maintained by OEQ. Future plans are to have the groups and sections of streams available via a web-based GIS tool (geo-located).

7. Other Business

OEQ is hiring a new position. This position will be tasked with enhancing the level of education and outreach related to the MS4 program as well as the Eco-City Action Plan. This position will implement the items discussed and maintain the OEQ website related to the MS4 permit. Besides reorganizing the website, more content will be added related to the MS4, local streams and the Chesapeake Bay.

Pet waste is a significant source of fecal bacteria in Alexandria. When pet waste is left on lawns or on streets and not properly disposed of, it can wash into nearby streams or be carried by runoff into storm drains.

These storm drains do not connect to treatment facilities. Instead, they drain directly into our streams, the Potomac River and eventually into the Chesapeake Bay.



Pet owners must collect their animal's waste so it does not wash into drains or streams

5 Things you can do to reduce pet waste pollution

- 1. Always clean up after your pet**
- 2. Never dispose of pet waste in a storm drain**
- 3. Pick up and bag waste, place it in the trash**
- 4. Flush pet waste down the toilet (but not kitty litter or debris)**
- 5. Encourage other pet owners to be responsible**

**When Nature Calls,
Please Pick Up...
After Your Pet!**



City of Alexandria
Transportation and Environmental Services
Office of Environmental Quality
301 King Street
City Hall, Room 3000
Alexandria, VA 22314
Ph: 703-746-4065
Fax: 703-519-5941

<http://alexandriava.gov/Environment>



Pet Waste Disposal, Water Quality and Your Health

Are You Risking Your Health?

When pet waste is left on the ground or disposed of improperly, water quality suffers and your health may be at risk also.

Children playing outside are at the highest risk of infection from bacteria and parasites found in pet waste. Flies may also spread diseases found in pet waste. Some of these bacteria and parasites include:

Campylobacteriosis – a bacterial infection carried by dogs and cats that frequently causes diarrhea in humans.

Salmonellosis – the most common bacterial infection transmitted to humans by other animals. Symptoms include fever, muscle aches, headache, vomiting, and diarrhea.

Toxocariasis – roundworms usually transmitted from dogs to humans, often without noticeable symptoms, but may cause vision loss, a rash, fever, or cough.

Toxoplasmosis – a parasite carried by cats that can cause birth defects if a woman becomes infected during pregnancy that can also be a problem for people with depressed immune systems.

Are you polluting our waters?

Did you know that most of Alexandria's streams exceed Virginia's water quality standards for fecal coliform and/or E. coli bacteria?

Escherichia coli (E. coli) bacteria is present in the intestinal tracts of all warm-blooded animals and is an indicator that other pathogens may be present. For recreational waters, fecal coliform was the primary bacteria indicator until relatively recently, when EPA began recommending E. coli and enterococci as better indicators of health risk from water contact. Virginia has incorporated E. coli in the state water quality standards and monitors accordingly.

The nutrients and organic matter in pet waste can also cause significant water quality degradation. Excess nutrients can cause algae blooms that block sunlight and kill underwater vegetation. Decaying pet waste uses up dissolved oxygen in the water that fish, vegetation and other aquatic species rely on to live. All streams in Alexandria drain to the Potomac River and Chesapeake Bay. By picking up after our pets, Alexandria can make a real contribution to improving our local water quality and the health of the Chesapeake Bay.

Simple Ways to Love Your Pet and the Environment!

Always clean up after your pet. Failure to do so on public property is subject to a \$100 fine (City Code §5-7-46).

Proper ways of disposing pet waste include:

Bagging and placing pet waste in the trash

Never dispose of pet waste in a storm drain. These drains lead directly to local waterways.

Encourage other pet owners to be responsible. It is an important part of the responsibility of owning a pet. We all suffer the consequences of ignoring irresponsible pet owners.

The City has several managed dog exercise areas. Please contact the Alexandria Department of Recreation, Parks and Cultural Activities at (703) 838-4343 or visit <http://alexandriava.gov/recreation/info/default.aspx?id=12284#dog>

Tidal Potomac River PCB TMDL

Section 303(d) of the federal Clean Water Act (CWA) and EPA's implementing regulations direct each state to identify river or stream segments not meeting water quality standards - known as water quality limited segments (WQLS). For each WQLS, the State is required to either establish a total maximum daily load (TMDL) or demonstrate that water quality standards are being met.

A TMDL has been developed for each WQLS:

The District of Columbia has listed all of the tidal Anacostia and Potomac rivers within District borders (5 segments) for protection of human health related to the consumption of fish and shellfish beneficial use, which is not supported due to elevated levels of PCBs in fish tissue.

The State of Maryland has listed the Potomac River Upper, Middle and Lower Tidal, and the tidal portion of the Anacostia River as impaired due to elevated levels of PCBs in fish tissue and other causes.

Virginia has 19 tidal embayments of the Potomac River listed for fish consumption use due to elevated levels of PCBs in fish tissue.

What is the City Doing?

Implementation of the TMDL is generally carried out through the City's Stormwater Program and MS4 (municipal separate storm sewer system) permit. The City performs the following in support of this effort:

- Standard contaminated land condition for development
- Special Use Permit's (SUPs) requiring screening for PCBs as part of the site characterization
- Assess municipal properties for sources of PCBs and assign any "high risk" facilities that currently store, or have transferred, transported or disposed of PCBs in a manner that would expose it to precipitation
- Characterize stormwater runoff from "high risk" properties
- Dry weather outfall screening
- Cleanup of the Hume-VEPCO Power Substation

MORE INFORMATION

Virginia Department of Environmental Quality
<http://www.deq.state.va.us/fishtissue/pcbstrategy.html>

VDH Fish Consumption Advisories
<http://www.vdh.state.va.us/epidemiology/dee/publichealthtoxicology/advisories/>

Department of Transportation & Environmental Services
Office of Environmental Quality
www.alexandriava.gov/Environment

PCBs

(Polychlorinated Biphenyls)



Tidal Portions of the Potomac River



ECO-CITY ALEXANDRIA

What are PCBs?



PCBs are a class of man-made compounds first manufactured in 1929 and used for a variety of industrial applications; including coolants and lubricants in electrical equipment. Other applications included dust control, pesticides, fire retardants, paints and coatings, printing inks, caulking, and wood treatment. There are no natural sources of PCBs.

New production was banned in 1979 under the Toxic Substances Control Act (TSCA) due to concerns about possible harmful human health effects, although their use in existing equipment was allowed to continue.

Although their current commercial use is restricted in the U.S., they continue to be a common environmental contaminant because they don't break down easily.

Release of PCBs

Prior to their regulation, PCBs were released into the atmosphere, water, and land through sewers, smokestacks,

stormwater runoff, spills, and direct application to the environment.

Large volumes have been introduced to the environment through the burning of PCB-containing products, vaporization from PCB-containing coatings and materials, releases into sewers and streams, improper disposal of PCB-containing equipment in non-secure landfill sites and municipal disposal facilities, and by other routes (such as ocean dumping) (ATSDR, 2001).

Current Possible Sources

Sites that were previously contaminated may emit and re-deposit PCBs to the environment via volatilization. In water, PCBs may be re-suspended with sediments in the water column.

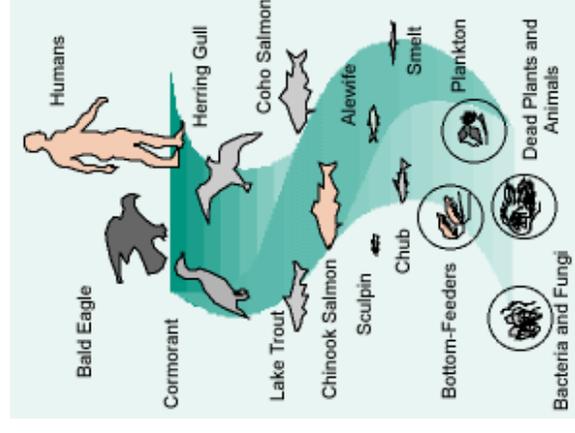
Some manufacturing processes may inadvertently generate PCBs. These include production of chlorinated solvents, paints, printing inks, agricultural chemicals, plastics, and detergent bars.

Based on the current regulation, the current primary "new" sources are limited to outdated or illegal landfills and scrapyards and leaks or explosions of electrical equipment and other equipment (such as locomotive transformers) that may still contain PCBs (ATSDR, 2001).

What Happens in the Environment?

In surface waters, PCBs are more likely to adsorb to particles in sediments, like organic matter, clay, and micro-particles that may be suspended or have settled out. They can remain buried in sediments for a long time and be slowly released into the water and evaporate into air.

PCBs tend to build up in living organisms both by uptake from the environment over time (bioaccumulation) and along the food chain (biomagnification). PCBs remain stored in fatty tissues much more than in muscles or other body parts.



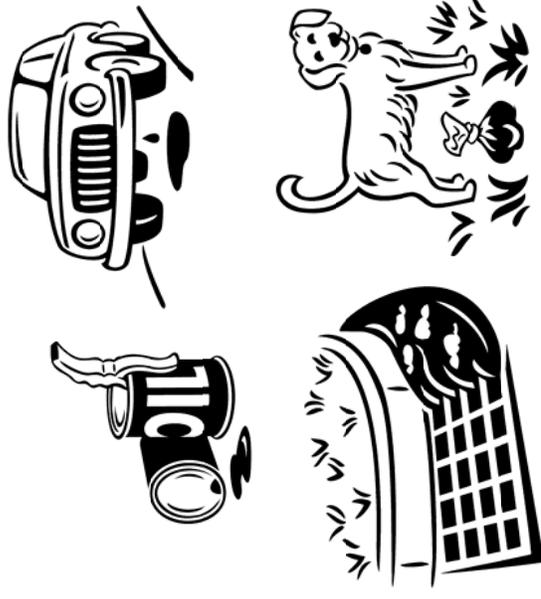
Source: Wisconsin Dept. of Natural Resources

El Plan de Dirección de Aguas de tormentas de la Ciudad consiste en seis elementos principales, referidos como "medidas de control mínimas," o MCMs para corto. Medidas específicas para poner en práctica el MCMs se llaman "las mejores prácticas de dirección". Durante el desarrollo del Plan, la Ciudad se empeño en una evaluación extensa de opciones de administración de aguas de tormentas existentes, ordenanzas, y programando contra exigencias de cumplimientos de NPDES. La Ciudad tiene cinco años para poner en práctica su Plan.

6 Medidas mínimas de Control del Plan de administración aguas de tormentas

1. Educación y alcance publico
2. Compromiso y Participación Pública
3. Descargas ilicitos y Eliminación
4. Control residuo de aguas de tormentas en la construccion
5. Administracion de aguas de tormentas post-construccion
6. Prevención de Contaminación y buen manejo de construccion

Las actividades diarias pueden contribuir a la contaminación de aguas de tormentas



City of Alexandria Transportation & Environmental Services
Division of Environmental Quality
301 King Street
City Hall, room 3900
Alexandria, VA 22314
Phone: 703-838-4334
Fax: 703-519-5941

<http://alexandriava.gov/tes/eq/overview.html>

¿Cómo puedo estar involucrar?

Usted puede involucrarse en estas maneras (1) aprender como mantener nuestros arroyos limpios con la previniendo la contaminación (2) participación en audiencias publicas patrocinadas por las ciudad (3) ofrecerse para uno de muchos acontecimientos de administración de Alexandria como el Día de Tierra de Alexandria. Para más información, póngase en contacto:

División de Alexandria de Calidad Ambiental
Departamento de Transporte y Servicios Ambientales (703) 838-4334



Programa de Administración de Aguas de Tormentas

El Plan de Administración de aguas de tormentas

La Educación y el Alcance Público: La Ciudad va a tomar parte en actividades de educación y alcance público para educar al público y negocios sobre los impactos de aguas de tormentas sobre Arroyos locales. Un punto focal de esfuerzos de la Ciudad será proporcionar la información sobre pasos que los ciudadanos pueden tomar para reducir o eliminar la contaminación de aguas de tormentas.

Compromiso y Participación Pública: El compromiso y participación pública son una parte esencial del Plan de la Ciudad. La Ciudad proporcionará una actualización anual a la Comisión Ambiental de Política y realizará el website de la Ciudad para hacerlo más fácil para ciudadanos para reportar problemas de contaminación.

Descubrimiento de Descarga Ilícitos y Eliminación: Según la ley, sólo aguas de tormentas se permiten en el sistema de agua de tormentas. Como parte de su programa, la Ciudad va a planear un mapa de todos los desagües de aguas de tormentas y desarrollará un programa para identificar y eliminar uniones ilegales al sistema.

Control residuo de aguas de tormentas en la construcción: La Ciudad realizará su Programa de Control de Sedimento y Erosión existente para reducir la contaminación de aguas de tormentas en la construcción. La Ciudad ahora requerirá que todos los empresarios controlen la basura en la construcción como la basura generada por los trabajadores y basura de las maquinarias como partes usadas y aceites.

Administración de aguas de tormentas post-construcción: La Ciudad realizará su Ordenanza de Preservación de Bahía Chesapeake para

reducir la contaminación por desarrollo. Los ejemplos de control de aguas de tormentas incluyen estanques de aguas de tormentas, amortiguadores para la vegetación, filtros de arena, agrupar los desarrollo para retener espacio abierto, y estándares de diseño que promueven amortiguación de arroyos y reducen superficies impermeables.

Prevención de Contaminación y buen manejo de construcción: Se requieren que la Ciudad asegure que las operaciones de gobierno son conducidas en una manera que protege la calidad de agua. Además de la revisión de procedimientos estándar, la Ciudad desarrollará Proyectos de Prevención de Contaminación de Agua de tormentas para muchas instalaciones de Ciudad.

¿Por que administrar aguas de tormentas?

Según a la Agencia del 1996 de Protección de Medio Ambiente estadounidense el Inventario de Calidad Nacional de Agua, aproximadamente el 40 % de cuerpos de aguas encustadas estadounidenses se consideran perjudicadas porque no llegan a alcanzar las estándares de calidad básicas de agua. En Alexandria, la Carrera de Cuatro millas (Four Mile Run), Cazando Carrera de Creek/Cameron (Hunting Creek/Cameron Run), y Carrera de Backlick (Backlick Run) es considerada perjudicada por el Departamento de Virginia de la Calidad Ambiental. Una fuente principal de este daño es la agua de tormentas contaminadas. ¿De dónde viene la contaminación? Esto viene de actividades diferentes que son la parte de nuestra vida diaria. Casi cada calle, césped, camino de entrada, azotea, y parqueo en Alexandria están relacionados con un desagüe tormentoso. Cuando llueve las aguas se mezclan con aceite derramado de motor, desechos de animales, pesticidas, pintura, grasa, y basura. Estas aguas contaminadas se descargan directamente a nuestros



Colector de fango son puntos de entrada de vecindad al sistema de agua de tormentas. ¿Dónde se va las aguas de tormentas?

(NPDES) conforme al Acto federal Limpio de Agua. El NPDES requiere que administraciones locales urbanas obtengan un permiso para cualquier sistema de descarga de aguas negrasen Aguas de los Estados Unidos. Una parte importante del programa de permisión es que cada gobierno regulado debe



Los tubos subterráneos finalmente descargan las aguas de tormentas a una corriente local. Si las aguas de tormentas están contaminada, nuestras corrientes locales son también contaminadas.

desarrollar un Programa de Dirección de Aguas de tormentas para controlar la contaminación "al grado máximo practicable." En Virginia, el Departamento de la Calidad Ambiental es responsable de hacer cumplir estas exigencias de NPDES.



Todas las corrientes en Alexandria drenan al Río Potomac y la Bahía Chesapeake. Millones de dólares son gastados cada año para limpiar fuentes evitables de la contaminación.

arroyos locales, que finalmente fluyen al Río Potomac y la Bahía Chesapeake.

¿Cuáles son las exigencias de NPDES?

En respuesta a la amenaza creciente de la contaminación de aguas de tormentas ha la calidad de aguas, el Congreso decretó el Sistema de Eliminación de Descarga de Contaminador Nacional

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