



Town of Ashland

Center of the Universe

101 THOMPSON STREET
P.O. BOX 1600
ASHLAND, VIRGINIA 23005-4600

TELEPHONE (804) 798-9219
FAX (804) 798-4892

October 1, 2014

Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060
Attn: Zachary Oremland

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SPAGNA, JR.
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TOWN ATTORNEY

J. DALLIN
KIMBLE
CLERK OF COUNCIL

RE: 2013 MS4 Annual Report, Town of Ashland
Permit Registration Number VAR040011

Dear Mr. Oremland:

The Town of Ashland is pleased to submit its report documenting compliance with the requirements of its MS4 Phase II permit. The Town of Ashland performed all of the activities required during the reporting period of July 1, 2013, through June 30, 2014.

The attached report details the activities performed in accordance with the items outlined in the General Permit. Where appropriate, we have included copies of documents that demonstrate achievement of these goals.

If you have questions regarding this report or require further information, please contact me or Ingrid Stenbjørn, PE, Town Engineer.

Sincerely,
Town of Ashland

Michael A. Davis, PE
Director of Public Works

Attachment: MS4 General Permit Report Permit Year July 1, 2013, through June 30, 2014

CC: Town Council
Charles Hartgrove, Town Manager

**Town of Ashland
MS4 General Permit Report
Reporting Year July 1, 2013 through June 30, 2014**

a. Background Information

1. Town of Ashland, General Permit Registration Number VAR04011
2. Permit Year July 1, 2013, through June 30, 2014
3. No modifications to operator's department's roles and responsibilities
4. Number of new MS4 outfalls and associated acreage by HUC added during the permit year: No new outfalls
5. 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.



Michael A. Davis, PE
Director of Public Work

9/29/14
Date

SECTION 2
PERFORMANCE SCHEDULE

2.1 Evaluation of Program

The Town of Ashland is required to evaluate and assess its own storm water management program.

A. Evaluation

1. The Town of Ashland will evaluate program compliance, the appropriateness of the identified best management practices, and progress towards achieving the identified measurable goals. In addition, the Town will perform a self-evaluation in accordance with EPA guidance once every 5 years. The next evaluation is scheduled for 2018.

B. Annual Reports

2. The Town of Ashland must submit reports to the Department of Environmental Quality in accordance with the schedule required in the regulations. The reports will include:
 - a. The status of compliance with permit conditions, an assessment of the appropriateness of the identified best management practices and progress towards achieving the identified measurable goals for each of the control measures;
 - b. Results of information collected and analyzed, including monitoring data, if any, during the reporting period;
 - c. A summary of the storm water activities the Town plans to undertake during the next reporting cycle;
 - d. A change in any identified best management practices or measurable goals for any of the minimum control measures;
 - e. Notice that the Town is relying on another government entity to satisfy some of the permit obligations (if applicable), and
 - f. The approval status of any qualifying local programs (if appropriate), or the progress towards achieving full approval of these programs.

2.2 Monitoring

Storm water discharges and BMPs are not required to be monitored for this permit.

2.3 Duty to Reapply

If the Town of Ashland wishes to continue an activity regulated by this permit after the expiration date of this permit, the Town must submit a new registration statement at least 90 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Virginia State Water Control Board. The Board will not grant permission for registration statements to be submitted later than the expiration date of the existing permit.

- b. Compliance with permit Conditions and assessment of best management practices:
1. Public Education and Outreach on Storm Water Impacts. Goals for permit year 2013-2014, and how goals have been met:
 - Stormwater management page on web site will be updated, and will describe BMP inspection and maintenance program. See Attachment 2.
 - The Town no longer publishes a newsletter. When the Town did have a newsletter we took excerpts from “Maintaining Stormwater Systems, a Guidebook for Private Owners and Operators in Northern Virginia”. We now have a link to this entire document on the Town’s website and on the Town’s Facebook Page. See Attachment 3. The website and Facebook site also have a link to an educational stormwater video entitled “What the Heck is Stormwater Runoff?”: <https://www.youtube.com/watch?v=kyH02NjyfPA#t=57>
 - Continue to collaborate with Randolph-Macon College (RMC) on Mechumps Creek Restoration project. Continue to publicize the project.
 - RMC is working with the Town and Williamsburg Environmental Group on the design of a regenerative wetland for the next phase of the Mechumps Creek Restoration Project. We continue to keep Town Council informed. We did not have any media coverage during the reporting period because there have not been any significant milestones reached on the project.
 - The Town and RMC applied for a National Fish and Wildlife Foundation grant to fund the regenerative wetland stream restoration project.
 - The Town and RMC applied for a VSMP Construction General Permit for this project.
 - Air 4 seasonal slides on the Town’s public television station. See Attachment 4.
 - Post information on Town’s website regarding maintenance requirements for owner of septic tanks in CBPAs. See Attachment 5.
 - Update MS4 Program Plan to include additional education requirements outlined in the July 1, 2013, MS4 General Permit. See Attachment 1.
 - 200 flyers distributed.
 - Distributed 200 pollution prevention educational flyers to the Ashland Branch of the Pamunkey Regional Library, businesses, and the two elementary schools. Flyers are also available at the Town Hall. See Attachment 6.
 - Additional Activities
 - The Town “street-scaped” a portion of the downtown. The project includes pervious pavers and a bio-retention areas/rain gardens. Town staff and our consultant worked extensively with property and business owners while developing the plan. During these meetings Town staff educated the business community about the stormwater management measures that will be implemented with the project. This project was discussed at council meetings, and has received media coverage. Construction began in fall 2013 and finished in spring 2014. See photos and conceptual plan in Attachment 7.
 - The Town is developing plans for the next phase of the downtown street-scape project that also includes permeable pavers and rain gardens. Town staff and our consultant are working with property and business owners to educate them about the stormwater management measures that will be implemented with the

project. This project has been discussed at council meetings. Construction will begin in late winter/early spring 2015, and finish in late spring/early summer 2015.

- Town staff did a presentation on the Town's innovative stormwater BMPs at the Middle James River Round Table.

2. Public Involvement/Participation. Goals for this permit year, and how goals have been met:

- Notices of public meetings in at least two different print media.
 - Public meetings are announced on the Town's Facebook page, the Town's Website and in the Herald Progress, which is the local newspaper. See Attachment 8 for an example announcement.
- Conduct at least one stream pick-up program.
 - A stream pick-up was conducted in conjunction with RMC's "Macon a Difference Day" (MaDD) to celebrate Earth Day. This year it was held on April 26, 2014. Town staff attends MaDD planning meetings every year, and suggests projects that have environmental benefit throughout the Town.
- Continue communication and collaboration with Randolph Macon College (RMC).
 - Town staff continues to attend RMC's MaDD planning meetings to suggest projects that have environmental benefit throughout the Town. MaDD projects that benefit the environment/stormwater quality this year are listed below. Go to <https://www.flickr.com/photos/randolphmacon/sets/72157644412767952/> for photos of the 2014 MaDD. See Attachment 9 for full list of MaDD projects.
 - ✓ Mechump Creek stream pickup from where it daylight behind the Ashland Police Department to I-95.
 - ✓ Tash pickup throughout the Town.
 - ✓ Maintenance of the rain gardens and other innovative BMPs around the RMC campus.
 - ✓ Maintaining plant beds and planting native plant at Smith and Henry Streets.
 - ✓ Maintaining plant beds in Taylor Street Park.
 - ✓ Maintaining herb garden at the International House.
 - ✓ Collecting and safely disposing of electronics.
 - ✓ Students distributed flyers reminding residents to wash cars responsibly. An example of the flyer can be seen in Attachment 6.
 - Continuing to collaborate on the Mechumps Creek Restoration Project, on which RMC is taking the lead role.
 - Town staff collaborated with the RMC on submitting a grant application to NFWF for construction of the next phase of the Mechumps Creek Restoration Project.
 - Town staff reviewed and commented on the Mechumps Creek Restoration Project plans.
 - Town staff collaborated to submit a VSMP Construction General Permit registration statement to DEQ for this project.
 - The Town Engineer attends class project presentations for an Environmental Policy Class every year. Her role is to help evaluate students' understanding

of the new VSMP regulations, particularly from a local government perspective.

- The Town provides internship opportunities to RMC students. This year's intern assisted in storm sewer TV monitoring and cleaning, preparing SWPPPs for Town projects, e. coli sampling, and investigating and repairing damaged storm sewer pipes.
 - Town staff assists RMC students with projects such as evaluating the effectiveness of BMPs.
 - The Town Engineer attended an Environmental Studies class to discuss the Town's various BMPs and implementation of the BMPs.
 - Continue to update MS4 Program Plan on the Town website for public comment.
 - Current MS4 Program Plan is posted on the Town's website. See Attachments 1 and 2.
 - Update MS4 Program Plan to include additional Public Outreach requirements outlined in the July 1, 2013, MS4 General Permit.
 - The MS4 Program Plan has been updated. See Attachment 1.
3. Illicit Discharge and Elimination. Goals for this permit year, and how goals have been met:
- Continue to update the storm sewer map so that it is current: showing the storm sewer system within the Town limits and reflecting requirements in the current MS4 General Permit.
 - The Town continues to update its storm sewer map in Auto CADD. See Attachment 10 for the MS4 Outfalls Table.
 - The Town is developing a geo-spatial data base with all its BMP information and storm sewers. This map is maintained in ESRI. The Auto CADD map will continue to be the primary storm sewer map.
 - Update the Town's program to detect and eliminate unauthorized non-stormwater discharges (illicit discharges) to be in compliance with the current MS4 General Permit.
 - The Town has updated its IDDE program. See Attachment 11.
 - Update (when appropriate) and circulate 100 flyers dedicated to eliminating illicit/unauthorized non-stormwater discharges to the general public and/or targeted businesses. Post fliers on Town website and social media.
 - Distributed 100 IDDE educational flyers to the Ashland Branch of the Pamunkey Regional Library, businesses, and the Town Hall. See Attachment 6.
 - Additional Activities
 - The Town is coordinating with the Ashland Police to train officers to identify illicit discharges and what to do about them.
 - The Town continues to issue permits for fundraiser carwashes. Someone who wishes to do a fundraiser carwash or operate a mobile carwash business must apply for a permit. During the permit application process (which is free of charge), Town staff may direct the permittee to an appropriate location for the carwash where wash water will not drain to the MS4 or to surface water. If a mobile carwash business wishes to operate in a visible location served by

storm sewer, it must collect the wash water and dispose of it appropriately. See Carwash Guidelines in Attachment 12.

- When the Ashland Police Department spots carwashes, they inform them they are not allowed under the Towns MS4 ordinance. For fundraisers, APD directs them to the Department of Public Works for a permit.
- Town staff uses a spreadsheet for tracking IDDE Enforcement Activities. See Tracking Spreadsheet in Attachment 13. No illicit discharges were identified during the reporting period. However, an illicit discharge identified during the previous reporting period was resolved during this reporting period.
- Town staff does regular dry weather monitoring. Attachment 13 contains the Dry Weather Monitoring record keeping spreadsheet.
- The Town flushed 2,812 linear feet of storm sewer in the Stony Run watershed in March 2014.

4. Construction Site Storm Water Runoff Control

- Implement VSMP General Construction Permit inspection program.
 - The Town adopted its local stormwater program on July 1, 2014.
- Maintain a consistent E&S Program in accordance with DEQ.
 - The Town’s E&SC program is consistent with DEQ standards. From July 1, 2013, through June 30, 2014, the town permitted the following land disturbing activities:

Year	Number of Land Disturbing Permits	Number of Agreements in Lieu of E&S Plan	Acres Disturbed
July 1, 2013 – June 30, 2014	7	20	32.9

5. Post-Construction Storm Water Management in New Development and Redevelopment

- Continue tracking existing BMPs and enforcing inspection requirements.
 - The Town continued to track and enforce BMP inspection and maintenance. From July 1, 2013 to June 30, 2014, the Town caused 14 BMP inspections of existing private facilities to occur. The Town inspected its 4 BMPs. Three (3) BMPs were added to the Town’s tracking spreadsheet. See Attachment 14 for is a list of BMPs in the Town’s database. The list indicates which BMPs were inspected during the reporting period, and those added.
- Update street sweeping form to include volumes collected.
 - It was not practical include volumes measurements on the street sweeping forms. Instead, the street sweeping crew records the depth of debris in the hopper. The Town Engineer calculates the volume based on known dimensions of the hopper. The Town Engineer also calculates the weight of the debris collected using the approximate the density of the debris, which was previously calculated. Street sweeping records and tabulations of total volume of material removed may be seen in Attachment 15.
- Encourage low impact development (LID), and request operations and maintenance plans from developers.

- The Town continues to encourage LID, and requires operation and maintenance plans for innovative stormwater BMPs.
 - Develop “Town’s BMP Standard Operating Procedures” document detailing long-term operations and maintenance (O&M) plans for all Town owned BMPs. The plans will include schedule for maintenance of each facility.
 - The Town owns, operates and maintains 4 BMPs. The maintenance plans for these BMPs is shown in Attachment 16. Below is a list of Town owned BMPs:
 - ✓ Bio-retention area on Hanover Avenue
 - ✓ Permeable pavers and bio-retention in municipal parking lot
 - ✓ Permeable pavers and bio-retention areas on Railroad Avenue
 - ✓ Permeable pavers and bio-retention area in College Park subdivision.
6. Pollution Prevention/Good Housekeeping for Municipal Operations
- Identify Town high-priority facilities.
 - The list of Town high-priority facilities is shown in Attachment 17.
 - Identify which of the municipal high-priority facilities have a high potential of discharging pollutants.
 - The list in Attachment 17 contains a ranking of the high-priority facilities. None were identified to have a high potential for discharging pollutants.
 - Identify applicable lands where nutrients are applied to a contiguous area of more than one acre. A latitude and longitude will be provided for each such piece of land and reported in the annual report.
 - There are no lands in the Town of Ashland where nutrients are applied to a contiguous area of more than one acre.
 - Determine and document the applicable employees or positions to receive each type of training.
 - List of staff to receive training is in Attachment 18.
 - Develop an annual written training plan including a schedule of training events that ensures implementation of the training requirements as noted above.
 - The written training plan is in Attachment 18.
 - Additional Activities
 - The Town continues its street sweeping activities. See Attachment 15 for a summary of street sweeping.
 - Other on-going records kept for the Town Maintenance Facility are:
 - ✓ Waste oil disposal
 - ✓ Fuel leak detection system for both the gasoline tank and the diesel tank
 - ✓ Oil-Water Separator inspections, maintenance and pump out for truck washing facility
 - ✓ Sand Interceptor inspections, maintenance and pump out for truck washing facility.
 - Developed a training program on good-house keeping techniques and skills for street crew. We have the first training session scheduled for the next reporting period.
7. Mechumps Creek TMDL for E. coli
- Update MS4 Program with new information on TMDL, if necessary.

- There was no new information on TMDL.
- No updates to the MS4 program seem necessary. However, the Town has implemented the following practices to help find and eliminate the source of e. coli.
 - ✓ Perform sampling of all three branches on a quarterly basis.
 - ✓ Collect extra samples where sampling results are high.
 - ✓ Target areas with higher concentrations of e. coli for TV Monitoring.
- The updated MS4 Program Plan may be viewed in Attachment 1.
- Continue public education program about picking up after pets.
 - See Attachment 4 for TV slides on picking up after your pets.
 - See Attachment 6 for fliers on picking up after you pets.
 - The Town continues to stock and maintain pet waste bag and disposal stations at all Town parks, the Hanover Arts and Activity Center and the Town Hall. RMC stocks and maintains 2 similar stations on the RMC campus.
- Continue investigating sources of E. coli bacteria.
 - The Town has been conducting sampling of e. coli in Mechumps Creek.
 - The Town has been performing sampling for e. coli in all three branches on a quarterly basis, although we missed the first quarter of the reporting period. See Attachment 19 for sampling results.
 - The Town collects extra samples where sampling results are high.
 - The Town targets areas with higher concentrations of e. coli for TV Monitoring.
 - The Town scheduled additional flushing and TV monitoring for next reporting period.
 - Concentrations of e. coli are generally higher in the middle branch than the other sampling locations. Therefore, the Town is focusing its investigation efforts in the middle branch. However, the highest concentration during this reporting period was in the northern branch. There were no notably high concentrations of e. coli detected during this permit cycle.
 - The sampling event which resulted in the highest e. Coli concentration in the all branches, was on June 5, 2014. However, there were no notably high concentrations of e. coli detected during this permit cycle.
 -
- Additional Activities:
 - Estimate volume of stormwater and the quantity of E. coli discharged to Mechumps Creek.
 - A total of 55.20” of precipitation was recorded at the Town Hall during the reporting cycle. The drainage area to Mechumps Creek, which includes Slayden Creek and Mechumps Creek, is approximately 1,880 Acres. The estimated total precipitation over this area is 3.77×10^8 C.F. Runoff is estimated to be 45% of the precipitation. Therefore, 1.70×10^8 C.F. of runoff entered Mechumps Creek. See Attachment 19.
 - The Town of Ashland collected samples from the north, middle and south branches of Mechumps Creek during the reporting period. The

concentrations from the sampling events were averaged. The approximated concentration of E. coli bacteria and the approximated runoff volume were used to calculate an approximated amount of E. coli bacteria entering Mechumps Creek: 6.40×10^{12} cfu/year for the reporting period, which is lower than the Total Maximum Daily Load (TMDL) of 3.16×10^{13} cfu/yr and the non-point source Load Allocation (LA) of 3.06×10^{13} cfu/yr. The method of calculation used, assumes that e. coli is transported to the stream by stormwater runoff. The Town will continue to monitor. See Attachment 19.

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

The information collected during this permit year includes:

- BMP Inspection (see Item 5 under section b)
 - Street Sweeping (see Item 6 under section b)
 - Maintenance Records (see Item 6 under section b)
 - Sampling data for Mechumps Creek TMDL (see Item 7 under section b)
 - Tracking of IDDE Enforcement Activities (see Item 3 under section b)
- d. The Town will update its MS4 Program Plan in accordance with the 2014 MS4 General Permit during the next reporting cycle. Additional activities to undertake during the next reporting cycle are summarized as follows:
- Public Education and Outreach on Storm Water Impacts
 - Identify at least three high-priority water quality issues, that contribute to the discharge of stormwater (e.g., Chesapeake Bay nutrients, pet wastes and local bacteria TMDLs, high-quality receiving waters, and illicit discharges from commercial sites) and a rationale for the selection of the three high-priority water quality issues;
 - Identify and estimate the population size of the target audience or audiences who is most likely to have significant impacts for each high-priority water quality issue;
 - Develop relevant message or messages and associated educational and outreach materials (e.g., various media such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, websites, and social media) for message distribution to the selected target audiences while considering the viewpoints and concerns of the target audiences including minorities, disadvantaged audiences, and minors;
 - Provide for public participation during public education and outreach program development;
 - Conduct sufficient education and outreach activities designed to reach an equivalent 20% of each high-priority issue target audience.
 - Review and adjust target audiences and messages including educational materials and delivery mechanisms to reach target audiences in order to address any observed weaknesses or shortcomings.
 - 200 flyers distributed.

- Air 4 seasonal slides on the Town’s public television station.
 - Articles on stormwater pollution prevention on Town website and social media. At least one each quarter.
 - Continue to collaborate with RMC on Mechumps Creek Restoration project. Continue to publicize the project.
 - Continue to educate property owners in CBPAs of the Town’s requirements for septic tank maintenance.
 - Public Involvement/Participation
 - Continue communication and collaboration with Randolph Macon College (RMC).
 - Work with volunteer group to mark or stencil stormwater inlets.
 - Establish contact with Elementary schools
 - Provide for public participation during public education and outreach program development;
 - Illicit Discharge Detection and Elimination
 - Circulate 100 flyers dedicated to eliminating illicit/ unauthorized non-stormwater discharges to the general public and/or targeted businesses.
 - Begin implementing the procedures to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping as outlined in the updated “unauthorized non-stormwater discharge detection and elimination procedures”. Keep records and report as specified.
 - Inspect the Town’s MS4 outfalls as outlined in the updated “unauthorized non-stormwater discharge detection and elimination procedures.” Keep records and report as specified.
 - Construction Site Storm Water Runoff Control
 - Maintain a consistent E&S Program in accordance with DEQ.
 - Maintain VSMP General Construction Permit inspection program.
 - Post-Construction Storm Water Management in New Development and Redevelopment
 - Continue tracking existing BMPs and enforcing inspection requirements.
 - Catalog operations and maintenance plans for LIDs to distribute to developers.
 - Inspect Town owned BMPs in accordance with the “Town’s BMP Standard Operating Procedures”. Perform maintenance as needed.
 - Pollution Prevention/Good Housekeeping for Municipal Operations
 - Continue program to keep records of the maintenance program activities at the Town Maintenance Facility.
 - Mechumps Creek TMDL for E. coli
 - Update MS4 Program with new information on TMDL, if necessary.
 - Continue public education program about picking up after pets.
 - Continue investigating sources of E. coli bacteria.
 - Estimate volume of stormwater and the quantity of E. coli discharged to Mechumps Creek.
- e. Changes from the BMPs proposed in the MS4 Program Plan dated December 7, 2007, and revised March 27, 2013 are:
- The program plan was updated to comply with the 2013 MS4 General Permit. The new program plan is dated June 30, 2014.

- o The Town rehabilitated/street-scaped the downtown area. This project includes permeable pavers and bio-retention areas.
- f. The Town of Ashland does not rely on another government entity to satisfy some of the permit obligations. However, Hanover County Department of Public Utilities manages the sanitary sewer in the Town, and collaborates with the Town on issues regarding sanitary sewer.
- g. Not applicable.
- h. Information required pursuant to Section I B 9 of the General Permit.
 - o The MS4 Program Plan was not updated during the reporting cycle, nor is there any new information on the TMDL or WLA, which are shown in the following table. However, the Town is continuing its effort to track the source of E. coli in Mechumps Creek. Town staff collected wet and dry weather samples and tested for E. coli.
 - o The Town, in collaboration with R-MC, has completed a design for a stream restoration on the reach of Mechumps Creek between Hill Carter Parkway and I-95. We have been applying for grants for construction. We applied for two grants during the permit cycle that were not awarded for this project.
 - o The Town was awarded funding through a DEQ SLAF Grant and NFWF for design and construction of a permeable parking lot at the Ashland Police Department and restoration of the stream adjacent to the parking lot. Design will begin in October 2014. This stream restoration will improve the water quality in Mechumps Creek.
 - o The Town and RM-C continue to provide bags at the Town parks, the R-MC campus and other locations for pet owners to pick up after their pets. Educational signs are in place at the bag dispensers to inform the public on the importance of picking up after pets.

Mechumps Creek TMDL for E. coli

Segment	Parameter	TMDL (cfu/yr)	WLA (cfu/yr)	LA (cfu/yr)	MOS
Mechumps Creek	E. Coli	3.16E+13	9.86E+11	3.06E+13	Implicit

- o A total of 55.20” of precipitation was recorded at the Town Hall during the reporting cycle. The drainage area to Mechumps Creek, which includes Slayden Creek and Mechumps Creek, is approximately 1,880 Acres. The estimated total precipitation over this area is 3.77×10^8 C.F. Runoff is estimated to be 45% of the precipitation. Therefore, 1.70×10^8 C.F. of runoff entered Mechumps Creek. The approximate quantity of E. coli that entered Mechumps Creek was calculated to be 6.40×10^{12} cfu/year for the reporting period, which is lower than the TMDL.
- i. No illicit discharges were identified during the reporting period. However, one detected in the previous reporting period was resolved during this reporting period. The tracking form is shown in Attachment 13.

- j. Regulated land-disturbing activity is addressed under Item 4 in section b of this report.
- k. All known permanent stormwater management facility data tracked under Section II B 5 b (6) may be viewed in Attachment 14. Three new private BMPs were added to the list. Town owned BMPs were also added to list.
- l. Three (3) new BMP maintenance agreements were executed during the reporting period. No BMP maintenance agreements were terminated during the reporting period.
- m. The Town of Ashland did not receive any written comments regarding the MS4 Program Plan.

Attachments: Copies of documents and samples of literature are attached as follows:

- o Attachment 1: Updated MS4 Program Plan
- o Attachment 2: Stormwater Management pages from Town Website
- o Attachment 3: Stormwater Articles
- o Attachment 4: Stormwater TV Slides
- o Attachment 5: Maintenance Requirement for Septic Tanks in CBPAs
- o Attachment 6: Pollution Prevention and Illicit Discharge Detection and Elimination (IDDE) Fliers
- o Attachment 7: Street-scape Photos and Conceptual Plan
- o Attachment 8: Public Meeting Announcement Example
- o Attachment 9: Macon a Difference Day Projects
- o Attachment 10: Table of MS4 Outfalls
- o Attachment 11: Town of Ashland IDDE Program
- o Attachment 12: Carwash Guidelines
- o Attachment 13: IDDE Spreadsheet
- o Attachment 14: List of BMPs in Database
- o Attachment 15: Street Sweeping Form and Summary
- o Attachment 16: Maintenance Plans for Town-owned BMPs
- o Attachment 17: List of Town-owned High-Priority Facilities
- o Attachment 18: Training Plan and List of Employees to Receive Training
- o Attachment 19: E. Coli Sampling Results and Summary

Attachments

**Attachment 1:
Updated MS4 Program Plan**

MS4 Program Plan

**For the
Town of Ashland, Virginia**

June 30, 2014, Update

Table of Contents

- 1. MS4 Program Plan**
- 2. Performance Schedule**

SECTION 1
MS4 PROGRAM PLAN

1.1 General

A. The Town's MS4 Program Plan is hereby updated. As part of the update, the following items are included in this document, incorporated by reference, or will be developed during the permit cycle if applicable:

1. A list of the applicable legal authorities such as ordinance, state and other permits, orders, specific contract language, and interjurisdictional agreements to ensure compliance with the minimum control measure in Section II of the 2013 MS4 General Permit related to post-construction stormwater management in new development and development on prior developed lands;
2. Written policies and procedures utilized to ensure that stormwater management facilities are designed and installed in accordance with Section II B 5 b of the 2013 MS4 General Permit;
3. Written inspection policies and procedures utilized in conducting inspections;
4. Written procedures for inspection, compliance and enforcement to ensure maintenance is conducted on private stormwater facilities to ensure long-term operation in accordance with approved design;
5. Written procedures for inspection and maintenance of Town-owned stormwater management facilities;
6. The roles and responsibilities of each of the Town's departments, divisions, or subdivisions in implementing the minimum control measure in Section II related to post-construction stormwater management in new development and development on prior developed lands.

B. Documents for BMP Implementation

1. The following is a list of existing policies, ordinances, schedules, inspection forms, and written procedures necessary for BMP implementation:
 - a. Environmental Protection Ordinance, Chapter 4.1
 - i. Stormwater Management Ordinance, Chapter 4.1, Article II
 - ii. Chesapeake Bay Preservation Areas
 - iii. Water Quality Protection
 - iv. Municipal Separate Storm Sewer System (addresses illicit discharges)
 - b. Erosion and Sediment Control Ordinance, Chapter 5
 - c. Subdivision of Land Ordinance, Chapter 17
 - d. Zoning Ordinance, Chapter 21
 - e. Agreement in Lieu of Erosion and Sediment Control Plan for single family residential construction
 - f. Agreement in Lieu of Water Quality Plan for single family residential construction
 - g. Erosion and Sediment Control Inspection Report
 - h. Erosion and Sediment Control Bonds/Letters of Credit
 - i. Land Disturbing Permit
 - j. BMP Maintenance Agreement

2. The Town of Ashland Department of Public Works is responsible for implementing the BMPs.

Contacts:	Ingrid Stenbjorn, PE Town Engineer 101 Thompson Street P.O. Box 1600 Ashland, VA 23005 804-798-9219 ext 231 Fax 804-798-4892	Michael A. Davis, PE Director of Public Works 101 Thompson Street P.O. Box 1600 Ashland, VA 23005 804-798-9219 ext 227 Fax 804-798-4892
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1.2 Seven Minimum Control Measures Required by MS4 Phase II

The seven minimum control measures included in this MS4 Program Plan, are as follows:

- A. Public Education and Outreach on Storm Water Impacts
- B. Public Involvement/Participation
- C. Illicit Discharge Detection and Elimination
- D. Construction Site Storm Water Runoff Control
- E. Post-Construction Storm Water Management in New Development and Redevelopment
- F. Pollution Prevention/Good Housekeeping for Municipal Operations
- G. Mechumps Creek TMDL for E. coli

This section details how the town of Ashland will address these minimum control measures and describes BMPs, measurable goals and target dates.

A. Public Education and Outreach on Storm Water Impacts

1. For this minimum control measure, the Town of Ashland currently implements the following programs:
 - a. Distributes information regarding proper erosion and sediment control measures. This information is given to contractors at the pre-construction meeting required by the Town.
 - b. Holds public information sessions, and runs ads in the local newspaper to update the public on current projects in the town. The Town has published a newsletter that was sent out to Town residents, but has begun posting announcements on the Town website and social media sites. Some sessions are also run on the Town government television station. In addition to airing some of the information sessions on the local government television station, slides and public service announcements are also aired. These public education tools have been and will continue to be utilized to publicize information regarding storm water related projects or information.
 - c. Maintains Stormwater Management page on its website. This Stormwater Management page includes information on the Town's MS4 permit, non-point source pollution and how residents can minimize stormwater pollution. It also contains contact information, hotlines, links to DEQ and EPA websites, and allows residents to download educational brochures.
 - d. Maintains a formal public education program, which consists of three parts:
 - The Town's government television station runs four informative slides per year about water quality in general, and storm water specifically. These slides are aired frequently throughout the day on the public access channel.

- The Town circulates flyers regarding stormwater related topics around the Town Hall, Town Police Station, Library, Visitors Center and other public locations.
 - The town posts information on its website and social media that raises awareness regarding stormwater management issues.
2. In addition to the programs currently in place, the Town of Ashland plans to implement the following programs:
- a. The Town will continue to update its website and maintain the most current information on stormwater management.
 - b. The Town will continue its public education program, and augment as necessary. This program will consist of:
 - Continuing to circulate flyers at the Town Hall, Town Police Station, Library, Visitors Center, targeted businesses, and/or other public locations. These flyers address the following: disposing of pet-waste, applying lawn-chemicals, washing cars, changing motor-oil and proper disposal of used motor oil, disposing leftover paint and household chemicals, and illicit discharges. To reduce the amount of paper used, the Town will rely more on social media and its website to distribute such information.
 - Each quarter, post on the website and social media articles on how homeowners and business owners may prevent stormwater pollution
 - Continue training program for the Street Crew and Ashland Police Department to identify illicit discharge, and what to do if they do detect illicit discharge.
 - Incorporate a training program for the Street Crew on good housekeeping for pollution prevention.
 - Include on the Town's website information for property owners in Chesapeake Bay Preservation Areas on the Town's requirements for septic tank maintenance.
 - c. The Town and Randolph-Macon College (RMC) are continuing to collaborate on a stream restoration project for Mechumps Creek. Phase 1 of the project was completed, and Phase 2 is ready for construction as soon as funding becomes available. Mechumps Creek was degraded due to historically uncontrolled stormwater runoff. This project provides opportunities to educate the public on detrimental effects of increased runoff due to lack of stormwater controls. The Town and RMC will make announcements, write articles, make presentations, encourage local press interest, etc., with regard to the project.
 - d. Public Schools in the Town of Ashland are run by Hanover County. The County is implementing a "Watershed Education for Students" program. The County coordinates with the Hanover/Caroline Soil and Water Conservation Service to provide a meaningful watershed experience for Hanover County Students. The Town supports this effort, and will participate with the County.
 - e. Provide public education for high-priority water quality issues as follows:
 - The Town will identify, at a minimum, three high-priority water quality issues, that contribute to the discharge of stormwater (e.g., Chesapeake Bay nutrients, pet wastes and local bacteria TMDLs, high-quality receiving waters, and illicit discharges from commercial

sites), and provide a rationale for the selection of the three high-priority water quality issues;

- The Town will identify and estimate the population size of the target audience or audiences which is most likely to have significant impacts for each high-priority water quality issue;
- Develop relevant message or messages and associated educational and outreach materials (e.g., various media such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, websites, and social media) for message distribution to the selected target audiences while considering the viewpoints and concerns of the target audiences including minorities, disadvantaged audiences, and minors;
- Provide for public participation during public education and outreach program development;
- Annually conduct sufficient education and outreach activities designed to reach an equivalent 20% of each high-priority issue target audience. It shall not be considered noncompliance for failure to reach 20% of the target audience. However, it shall be a compliance issue if insufficient effort is made to annually reach a minimum of 20% of the target audience; and
- Provide for the adjustment of target audiences and messages including educational materials and delivery mechanisms to reach target audiences in order to address any observed weaknesses or shortcomings.

3. Measurable goals and target dates are listed in the chart below:

Compliance Period	Measurable Goals
Year 1 2013-2014	<ul style="list-style-type: none"> ○ Stormwater management page on web site will be updated, and will describe BMP inspection and maintenance program. ○ Articles on stormwater pollution prevention Town website and social media. ○ Continue to collaborate with RMC on Mechumps Creek Restoration project. Continue to publicize the project. ○ Air 4 seasonal slides on the Town's public television station. ○ Post information on Town's website regarding maintenance requirements for owner of septic tanks in CBPAs. ○ Update MS4 Program Plan to include additional education requirements outlined in the July 1, 2013, MS4 General Permit. ○ 200 flyers distributed.
Year 2 2014-2015	<ul style="list-style-type: none"> ○ Identify at least three high-priority water quality issues, that contribute to the discharge of stormwater (e.g., Chesapeake Bay nutrients, pet wastes and local bacteria TMDLs, high-quality receiving waters, and illicit discharges from commercial sites) and a rationale for the selection of the three high-priority water quality issues;

Compliance Period	Measurable Goals
	<ul style="list-style-type: none"> ○ Identify and estimate the population size of the target audience or audiences who is most likely to have significant impacts for each high-priority water quality issue; ○ Develop relevant message or messages and associated educational and outreach materials (e.g., various media such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, websites, and social media) for message distribution to the selected target audiences while considering the viewpoints and concerns of the target audiences including minorities, disadvantaged audiences, and minors; ○ Provide for public participation during public education and outreach program development; ○ Conduct sufficient education and outreach activities designed to reach an equivalent 20% of each high-priority issue target audience. ○ Review and adjust target audiences and messages including educational materials and delivery mechanisms to reach target audiences in order to address any observed weaknesses or shortcomings. ○ 200 flyers distributed. ○ Air 4 seasonal slides on the Town's public television station. ○ Articles on stormwater pollution prevention on Town website and social media. At least one each quarter. ○ Continue to collaborate with RMC on Mechumps Creek Restoration project. Continue to publicize the project. ○ Continue to educate property owners in CBPA's of the Town's requirements for septic tank maintenance.
Year 3 2015-2016	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period
Year 4 2016-2017	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period

B. Public Involvement/Participation

1. For this minimum control measure, the Town of Ashland currently implements the following programs:
 - a. Coordinates with Randolph Macon College (RMC) to implement a stream pick-up program. The program consists of volunteers who walk streams and pick up litter at least once per year. This often also includes a public awareness exhibit of trash collected from streams.

- b. Partners with Randolph Macon College by providing opportunities for to students to participate in Town projects. Opportunities have included:
 - i. Internships to assist with the Town's stormwater program, which has included, but not limited to, locating stormwater outfalls.
 - ii. A hydrologic study to assess a major stream in the Town.
 - iii. Preliminary investigation to implement a stream restoration project in Town.
 - iv. Professors and students sampling for stream water quality.

Town communicates with the Chair of the Environmental Studies Program, Charles Gowan (804-752-7293) on monthly basis to identify new opportunities for the Town to collaborate with the College on stormwater and environmental projects.

- c. Coordinates with organizations such as the Boy Scouts to implement stormwater management projects. In the past this has included affixing markers on many stormwater inlets around town. These markers indicate that stormwater entering the inlet drains to the Chesapeake Bay. The purpose of these markers is to raise public awareness of the fate of stormwater, and to discourage dumping into stormwater inlets. Other civic groups have done stream and street pick-ups to raise awareness of littering, and constructed bridges along the restored portion of Mechumps Creek for pedestrian access to view the creek.
2. In addition to the programs currently in place, the Town of Ashland plans to implement the following programs:
- a. Continue to provide stormwater education through schools that exposes the message not only to students but to their parents as well. This may include partnering with educators and experts to develop storm water-related curricula for the classroom.
 - b. Continue to update the Town's MS4 Program Plan and Annual Reports and make them available on the Town's website. Announce the availability of the MS4 Program Plan and request public comments on the Ashland's public television station, the Town website and social media pages. Address comments as they are submitted. In annual report, include the comments received and a narrative of how the Town addressed them.
 - c. Provide for public participation during public education and outreach program development;
3. Additional vehicles for public involvement/participation that may be implemented as part of this program include:
- a. Town staff may make presentations to elementary, middle or high school classes on the Town's stormwater program.
 - b. Partner with local organizations such as:
 - i. VDOT – Designated as a Phase II permittee, VDOT must complete a department-wide storm water program. In addition, the department maintains an area headquarters within the Town. This affords ample opportunity for partnership in regards to the timely implementation of BMPs within the Town.

- ii. Market Ashland Partnership (M.A.P.)
- iii. Hanover Association of Businesses
- iv. The Ashland/Hanover Citizens for Responsible Growth
- v. Soil Conservation District
- vi. Hanover County Public Schools – The Town may sponsor a poster contest about the environment and/or storm water.
- vii. Departments of Forestry, and Fish and Game, to aid in involving the public on water quality issues within the Town of Ashland
- viii. Boy Scouts, youth groups and other non-profit organizations may be contacted to aid in completing some program requirements.

4. Measurable goals and target dates are listed in the chart below:

Compliance Period	Measurable Goals
Year 1 2013-2014	<ul style="list-style-type: none"> o Notices of public meetings in at least two different print media. o Conduct at least one stream pick-up program. o Continue communication and collaboration with Randolph Macon College (RMC). o Continue to update MS4 Program Plan on the Town website for public comment. o Update MS4 Program Plan to include additional Public Outreach requirements outlined in the July 1, 2013, MS4 General Permit.
Year 2 2014-2015	<ul style="list-style-type: none"> o Continue communication and collaboration with Randolph Macon College (RMC). o Work with volunteer group to mark or stencil stormwater inlets. o Establish contact with Elementary schools o Provide for public participation during public education and outreach program development;
Year 3 2015-2016	<ul style="list-style-type: none"> o To be updated during 2014-2015 Compliance Period
Year 4 2016-2017	<ul style="list-style-type: none"> o To be updated during 2014-2015 Compliance Period

C. Illicit Discharge Detection and Elimination

Illicit discharges are discharges to municipal separate storm sewers that are not composed entirely of storm water except the following as stated in Section 4.1-502(b) of the Town Code:

- (1) Water line flushing;
- (2) Landscape irrigation;
- (3) Diverting stream flows or rising groundwater;
- (4) Infiltration of uncontaminated groundwater;

- (5) Public safety activities, including but not limited to, law enforcement and fire suppression;
- (6) Well-point dewatering or pumping of uncontaminated ground water from potable water sources, foundation drains, irrigation waters, springs, or water from crawl spaces or footing drains;
- (7) Air conditioning condensation;
- (8) Watering and maintenance with landscaping chemicals in accordance with manufacturer's recommendations;
- (9) Individual residential car washing;
- (10) Flows from riparian habitats or wetlands;
- (11) Swimming pool discharges that have been de-chlorinated or are free of other disinfecting agents;
- (12) Street washing;
- (13) Any activity authorized by a valid Virginia Pollutant Discharge Elimination System (VPDES) permit or Virginia Pollution Abatement (VPA) permit; or
- (14) Any other water source not containing sewage, industrial wastes or other wastes.

Illicit discharges are a problem because, unlike wastewater, which flows to a wastewater treatment plant, stormwater generally flows to waterways without any additional treatment. Illicit discharges often include pathogens, nutrients, surfactants, and various toxic pollutants.

Examples of illicit discharges include: sanitary sewer cross-connections, dumping used motor oil into the storm drain, or business owners washing inappropriate material into the system.

1. For this minimum control measure, the Town of Ashland currently implements the following programs:
 - a. The Town has a storm sewer map. The map consists of an AutoCAD drawing that shows natural streams within the Town limits, all major outfalls to the streams, and most of the storm sewer system in the Town. The map also includes location of a number stormwater management BMPs and other surface water features. The Town continually updates this map as new structures are added or additional information is found on structures. The map includes the following data: size, type, and condition of outfall to stream. The Town uses this map as a tool to assist in-screening storm drainage system for illicit discharges. Major outfalls are defined by the State Water Control Board as discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than a circular pipe which is associated with a drainage area of more than 50 acres); or municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), with an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more). The Town has been working to make this map compatible with the Town's GIS system. During the data collection for this mapping, stream inspections were performed by walking 100% of the streams in Town (at least once), and storm sewers were mapped using GPS.
 - b. The Town also has a site plan database for recently submitted plans.
 - c. The Town currently partners with Hanover County to maintain a sanitary sewer maintenance program that identifies improper discharges and illegal dumping. This

program is run by Hanover County, which owns all of the sanitary sewer system within the Town of Ashland.

- d. The following chapters of the Town of Ashland's Municipal Code address this measure:
 - Chapter 4.1: *Environmental Protection* – This chapter outlines parameters governed by the Chesapeake Bay Preservation Area Ordinance (CBPO) as well as the Town's water quality protection plan. The CBPO established requirements for septic tank inspections. It also outlines the enforcement and penalties associated with noncompliance of this chapter. In 2007, the Town added Article VI, "Municipal Separate Storm Sewer System (MS-4) Management Program", which establishes prohibitions associated with discharges to a storm sewer system as well as penalties for violations.
 - Chapter 17: *Subdivision of Land* – The portions of this chapter that are relevant to illicit discharge include: Article II, Divisions 1 and 2 discuss approval of plats and standards. Both of these articles cover the suitability of the land, as well as drainage and flooding and other hazards associated with the design of subdivisions.
 - e. As part of the public education and outreach measure, the Town has developed brochures to inform public employees, business and the general public of hazards and reporting procedures associated with illegal discharges, and measures to take when illegal discharges are detected.
2. In addition to the programs currently in place, the Town of Ashland plans to implement the following programs:
- a. Investigate illicit connections to the storm drain system in older portions of Town. Recordkeeping and code enforcement may not have been equivalent to today's standards when these residences and businesses were first built, or undocumented modifications might have been made since construction. Older areas will be prioritized for targeted investigation, such as through dry weather screening at outfalls. Older parts of the storm drain system may also be monitored for deteriorating and required repairs or replacement.
 - b. Continue to update (when appropriate) education and outreach material that deals with illicit discharge. Updates may include information about recycling household hazardous material such as paints, solvents, automotive fluids, pesticides, etc.
 - c. The Town will develop, implement, and update (when appropriate) written procedures to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping, to the Town's MS4. These procedures will include a written dry weather field screening methodologies to detect and eliminate illicit discharges to the MS4 that include field observations and field screening monitoring and that provide:
 - A prioritized schedule;
 - The minimum number of field screening activities the Town will complete annually;
 - Methodologies to collect the general information such as time since the last rain, the quantity of the last rain, site descriptions, estimated discharge rate and visual observations;

- A time frame upon which to conduct an investigation or investigations to identify and locate the source of any observed continuous or intermittent non-stormwater discharge;
 - Methodologies to determine the source of all illicit discharges;
 - Mechanisms to eliminate identified sources of illicit discharges;
 - Methods for conducting a follow-up investigation; and
 - A mechanism to track all investigations.
3. Additional vehicles for illicit discharge detection and elimination that may be implemented as part of this program include:
- a. Continue to coordinate with Hanover County to document a sanitary sewer inspection and maintenance program.
4. Measurable goals and target dates are listed in the chart below:

Compliance Period	Measurable Goals
Year 1 2013-2014	<ul style="list-style-type: none"> ○ Continue to update the storm sewer map so that it is current: showing the storm sewer system within the Town limits and reflecting requirements in the current MS4 General Permit. ○ Update the Town's program to detect and eliminate unauthorized non-stormwater discharges (illicit discharges) to be in compliance with the current MS4 General Permit. ○ Update (when appropriate) and circulate 100 flyers dedicated to eliminating illicit/unauthorized non-stormwater discharges to the general public and/or targeted businesses. Post fliers on Town website and social media.
Year 2 2014-2015	<ul style="list-style-type: none"> ○ Circulate 100 flyers dedicated to eliminating illicit/unauthorized non-stormwater discharges to the general public and/or targeted businesses. ○ Begin implementing the procedures to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping as outlined in the updated "unauthorized non-stormwater discharge detection and elimination procedures". Keep records and report as specified. ○ Inspect the Town's MS4 outfalls as outlined in the updated "unauthorized non-stormwater discharge detection and elimination procedures." Keep records and report as specified.
Year 3 2015-2016	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period
Year 4 2016-2017	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period

D. Construction Site Storm Water Runoff Control

1. For this minimum control measure, the Town of Ashland currently implements the following programs:

- a. The following chapters of the Town of Ashland Municipal Code address this measure and can be found in Section 6:
 - Chapter 4.1 – Environmental Protection
 - Chapter 5 – Erosion and Sediment Control (updated in 2007). Requirements for erosion and sediment controls as well as sanctions to ensure compliance. Requirements for construction site operators to implement appropriate erosion and sediment control BMPs. Procedures for site plan review. Procedures for site inspection. Continue to formally document regulated land disturbing activities and submit the following information for the reporting period with the annual report: (the following information is currently being gathered as part of Chapter 5)
 - a. Total number of regulated land disturbing activities; and
 - b. Total disturbed acreage.
 - Chapter 17 – Subdivision of Land
 - Chapter 21 – Zoning
 - b. The above referenced chapters include requirements for site plan review, erosion and sediment control construction techniques and inspections, post-construction inspections and record drawings, as well as penalties for non-compliance.
2. The Town will implement a VSMP General Construction Permit inspection program in accordance with State requirements.
 3. Measurable goals and target dates are listed in the chart below:

Compliance Period	Measurable Goals
Year 1 2013-2014	<ul style="list-style-type: none"> ○ Implement VSMP General Construction Permit inspection program. ○ Maintain a consistent E&S Program in accordance with DEQ.
Year 2 2014-2015	<ul style="list-style-type: none"> ○ Maintain a consistent E&S Program in accordance with DEQ. ○ Maintain VSMP General Construction Permit inspection program.
Year 3 2015-2016	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period
Year 4 2016-2017	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period

E. Post-Construction Storm Water Management in New Development and Redevelopment

1. For this minimum control measure, the Town of Ashland currently implements the following programs:
 - a. The following chapters of the Town of Ashland's Municipal Code address this measure:
 - Chapter 4.1 – Environmental Protection – This Chapter outlines the requirements for post construction stormwater management BMPs for new development and redevelopment. These requirements are consistent with the Chesapeake Bay Preservation Act and the Virginia Department of Environmental Quality's requirements.

- Chapter 5 – Erosion and Sediment Control
 - Chapter 17 – Subdivision of Land
 - Chapter 21 – Zoning
- b. The requirement for having a BMP maintenance agreement is specified in the Town's permit application process. This maintenance agreement includes an inspection schedule for structural BMPs.
 - c. The Town has a tracking database for permanent BMPs installed in the Town, which includes the following information:
 - Type of BMP;
 - Geographic location (Hydrologic Unit Code);
 - Water body the BMP is discharging to;
 - Number of acres treated;
 - Date of the last BMP inspected;
 - How often the BMP is to be maintained (annually, every three years, etc.); and
 - Problems found or associated with the inspections, and the remedies taken or planned for the problems.
 - d. The Town has hired additional staff to provide resources to enforce BMP inspections.
 - e. The Town currently operates a street sweeping program with a program to formally document the hours and/or miles of sweeping completed on a weekly basis. The Town also quantifies the amount of sweepings by measuring the volume of material in the street sweeper hopper.
2. In addition to the programs currently in place, the Town of Ashland plans to implement the following programs:
 - a. The Town is developing a geospatial data base linked to its GIS track BMPs, inspection requirements, and maintenance.
 - b. Continue to enforce the BMP inspection and maintenance program. The Town's BMP database includes information on BMP inspections. The Town contacts BMP owners who have not submitted the required inspection documentation, and we are requesting inspections be performed and documentation be sent to us. The Town has an inspection checklist to be used for performing BMP inspections.
 - c. Continue to keep street sweeping records.
 - d. For new development and redevelopment, the Town continues to encourage innovative site designs, which reduce imperviousness, and encourage smaller-scale low impact development (LID) practices.
 - e. Update the Town's policy in accordance with the VSMP regulations.
 - f. For Town owned stormwater management facilities, the Town will provide for adequate long-term operation and maintenance of its stormwater management facilities in accordance with written inspection and maintenance procedures outlined in the Town's BMP Standard Operating Procedures document.

3. Measurable goals and target dates are listed in the chart below:

Compliance Period	Measurable Goals
Year 1 2013-2014	<ul style="list-style-type: none"> ○ Continue tracking existing BMPs and enforcing inspection requirements. ○ Update street sweeping form to include volumes collected. ○ Encourage low impact development (LID), and request operations and maintenance plans from developers. ○ Develop "Town's BMP Standard Operating Procedures" document detailing long-term operations and maintenance (O&M) plans for all Town owned BMPs. The plans will include schedule for maintenance of each facility.
Year 2 2014-2015	<ul style="list-style-type: none"> ○ Continue tracking existing BMPs and enforcing inspection requirements. ○ Catalog operations and maintenance plans for LIDs to distribute to developers. ○ Inspect Town owned BMPs in accordance with the "Town's BMP Standard Operating Procedures". Perform maintenance as needed.
Year 3 2015-2016	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period
Year 4 2016-2017	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period

F. Pollution Prevention/Good Housekeeping for Municipal Operations

1. The Town of Ashland maintains fewer than ten facilities within the program area. These facilities include the following: the Town Hall, Town Fire Station, Town Police Station, Town maintenance facility, and six recreational parks. For this minimum control measure, the Town of Ashland currently implements the following programs:
 - a. An Environmental Compliance Manual (ECM) provides specific instructions as to how to store, transfer, dispose or otherwise manage potentially hazardous and non-hazardous waste. The ECM covers waste materials management procedures for every activity associated with the following: Maintenance Shop Facility, Roadside Development/Landscape Facility, Fuel Storage and Dispensing Facility, Traffic Engineering Warehouse Facility, Hazardous Waste Storage Building Facility, Office Supplies Management Toner Storage Area, and Highway Chemical Storage/Handling Area.

The intent of the ECM is to provide a safe work place and a protected environment by:

- Training site personnel
- Identifying people who will provide help and information
- Identifying waste generating activities
- Teaching special handling methods
- Providing special storage requirements
- Explaining how to manage spills

- Preparing for site inspections and audits
 - Showing how to keep good records
 - b. The Town currently operates a street sweeping program. The Town keeps track of the hours and/or miles of sweeping completed on a weekly, and the volume of debris collected.
 - c. The Town collects leaves throughout leaf season, and brush throughout the year. Leaves and brush are composed or chipped into mulch for reuse.
 - d. The Town has constructed two salt storage buildings to prevent stored salts from running off into surface water. One storage building contains only salt, the other a sand salt mix.
2. In addition to the programs currently in place, the Town of Ashland plans to implement the following programs:
- a. Continue to update program to keep records of the maintenance program activities at the Town Maintenance Facility.
 - b. The Town will identify all municipal high-priority facilities. These high-priority facilities will include: (i) composting facilities, (ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities, (v) public works yards, (vi) recycling facilities, (vii) salt storage facilities, (viii) solid waste handling and transfer facilities, and (ix) vehicle storage and maintenance yards.
 - c. The Town will identify which of the municipal high-priority facilities have a high potential of discharging pollutants. The facilities that have a high potential for discharging pollutants are those facilities identified in subsection "b" above and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:
 - Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
 - Materials or residuals on the ground or in stormwater inlets from spills or leaks;
 - Material handling equipment (except adequately maintained vehicles);
 - Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);
 - Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
 - Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
 - Waste material except waste in covered, non-leaking containers (e.g., dumpsters);
 - Application or disposal of process wastewater (unless otherwise permitted); or
 - Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.
 - d. Turf and landscape management. The Town will identify all applicable lands where nutrients are applied to a contiguous area of more than one acre. A latitude and longitude shall be provided for each such piece of land and reported in the annual report.
 - e. Training Schedule and Program.
 - The Town will conduct training for employees. The training requirements may be fulfilled, in total or in part, through regional training programs involving two or more MS4 localities provided. Training is not required if the topic is not applicable to the Town's operations. Non-applicable topics include:
 - Emergency response is handled outside the Town by Hanover County.

- Water and sanitary sewer facilities are handled by Hanover County.
- The Town will determine and document the applicable employees or positions to receive each type of training.
- The Town will develop an annual written training plan including a schedule of training events that ensures implementation of the training requirements as follows:
 - Provide biennial training to applicable field personnel in the recognition and reporting of illicit discharges.
 - Provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance.
 - Provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around maintenance and public works facilities.
 - Ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified in accordance with the Virginia Pesticide Control Act (§ [3.2-3900](#) et seq. of the Code of Virginia).
 - Ensure that employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.
 - Ensure that applicable employees obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.
 - Provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around recreational facilities.
 - Keep documentation on each training event including the training date, the number of employees attending the training, and the objective of the training event for a period of three years after each training event.

3. Measurable goals and target dates are listed in the chart below:

Compliance Period	Measurable Goals
Year 1 2013-2014	<ul style="list-style-type: none"> ○ Identify Town high-priority facilities using list above. ○ Identify which of the municipal high-priority facilities have a high potential of discharging pollutants. ○ Identify applicable lands where nutrients are applied to a contiguous area of more than one acre. A latitude and longitude will be provided for each such piece of land and reported in the annual report. ○ Determine and document the applicable employees or positions to receive each type of training. ○ Develop an annual written training plan including a schedule of training events that ensures implementation of the training requirements as noted above.

	o
Year 2 2014-2015	o Continue program to keep records of the maintenance program activities at the Town Maintenance Facility.
Year 3 2015-2016	o To be updated during 2014-2015 Compliance Period
Year 4 2016-2017	o To be updated during 2014-2015 Compliance Period

G. Mechumps Creek TMDL for E. coli

1. The Virginia Department of Environmental Quality (DEQ) assigned a Total Maximum Daily Load (TMDL) of 3.08×10^{13} cfu/yr and a non-point source Load Allocation (LA) of 2.98×10^{13} cfu/yr for E. coli bacteria to Mechumps Creek. This TMDL and LA were established in a document entitled "Bacteria TMDL for Mechumps Creek, Hanover County, Virginia – Submitted by Virginia Department of Environmental Quality – October 2004 (Revised)." This section was added to the Town of Ashland's MS4 Program Plan to include measurable goals, schedules, and strategies to address the Total Maximum Daily Load (TMDL) Load Allocation (LA).
2. The following are measurable goals, schedules, strategies, and other best management practices (BMPs) the Town currently uses or plans to implement to assure consistency with the approved TMDL:
 - a. The following items, which are applicable to reducing the E. Coli, are currently in place in the Town of Ashland:
 - i. Program to educate pet owners about picking up pet waste.
 - ii. Provide pet waste bags and receptacles at parks and other locations around Ashland.
 - iii. Municipal Separate Storm Sewer System (MS-4) Management Program Ordinance addresses illicit discharges
 - iv. Street Sweeping
 - v. Leaf and Brush Collecting
 - vi. The Town performs dry weather monitoring for detecting illicit discharges.
 - vii. The Town performs TV monitoring of storm sewers to detect cross connections
 - viii. Hanover County Department of Public Utilities (which owns water and sanitary sewer utilities in Ashland) has been repairing and lining sanitary sewers in the Town to prevent inflow and infiltration (I&I), as well as leaking sanitary sewer lines.
 - ix. The Ashland Police Department regularly disbands homeless camps along Mechumps Creek. The homeless people, who camp along the creek, dispose of human and solid waste in the creek.
 - b. The Town continues to evaluate these existing ordinances, BMPs, programs, policies, plans, and procedures regularly to determine their effectiveness in reducing E. coli bacteria in Mechumps Creek. The evaluation will identify weakness or limitation in reducing E. coli bacteria in a manner consistent with the TMDL.
 - c. After each evaluation, the Town will develop a schedule to implement procedures and strategies that address weaknesses in the program. The schedule may include, but not be limited to, timetables to update existing ordinances and other

legal authorities within two years, BMPs, policies, plans, procedures and contracts that will better address E. coli in Mechumps Creek. Eliminating the source of E. coli will be the priority wherever possible.

- d. The Town will implement these schedules to the best of its ability.
3. The Town of Ashland continues its education and awareness campaign in its public education and outreach program to clean up pet waste and discourage illicit discharge of any kind, particularly when in contains E. coli bacteria.
4. The Town of Ashland participates as a stakeholder in the development of an implementation plan developed to address the E. coli TMDL for Mechumps Creek. The Town will incorporate applicable BMPs (or those of equivalent design and efficiency) identified in the TMDL implementation plan in its MS4 Program Plan.
5. The Town has developed and implements outfall reconnaissance procedures to identify potential sources of the E. coli bacteria from anthropogenic activities. The Town will conduct future reconnaissance in accordance with the following:
 - a. Inspect the Town's MS4 outfalls as outlined in the updated "unauthorized non-stormwater discharge detection and elimination procedures." Keep records and report as specified..
6. The Town evaluates Town owned properties for potential sources of E. coli bacteria. If there are sites that may be a likely source of E. coli bacteria, the Town will conduct a site review and characterize the runoff. The site review and runoff characterization will be performed in accordance with the following schedule:
 - a. As a part of the site review, the Town will collect a total of two samples from a representative outfall for each identified municipal property. One sample will be taken during each of the following six-month periods: October through March, and April through September.
 - b. All collected samples will be grab samples and collected within the first 30 minutes of a runoff producing event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previous measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the property. The required 72-hour storm event interval may also be waived where the Town documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. Samples will be analyzed in using only methods that have been approved under 40 CFR Part 136 of the State Code or the Environmental Protection Agency (EPA). If such an approved method does not exist, a method will be used which is consistent with the TMDL.
 - c. For properties where there is found to be a discharge of E. coli bacteria, the Town will develop and implement a schedule to minimize the discharge.
7. The Town will conduct an annual characterization that estimates the volume of stormwater discharged, in cubic feet, and the quantity of E. coli bacteria discharged by the MS4.
8. As part of the annual evaluation, the Town will update its MS4 Program Plan to include any new information regarding the TMDL in order to ensure consistency with the TMDL.

9. Along with other MS4 reporting requirements, the Town will include the following with each annual report:
- a. 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.
 - b. The estimate of the volume of stormwater discharged, in cubic feet, and the quantity of E. coli bacteria discharged by the Town's MS4.

Compliance Period	Measurable Goals
Year 1 2013-2014	<ul style="list-style-type: none"> ○ Update MS4 Program to with new information on TMDL, if necessary. ○ Continue public education program about picking up after pets. ○ Continue investigating sources of E. coli bacteria.
Year 2 2014-2015	<ul style="list-style-type: none"> ○ Update MS4 Program to with new information on TMDL, if necessary. ○ Continue public education program about picking up after pets. ○ Continue investigating sources of E. coli bacteria. ○ Estimate volume of stormwater and the quantity of E. coli discharged to Mechumps Creek.
Year 3 2015-2016	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period
Year 4 2016-2017	<ul style="list-style-type: none"> ○ To be updated during 2014-2015 Compliance Period

**Attachment 2:
Website Pages on
Stormwater**



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Stormwater Management

The Town, with your help, takes steps to reduce the amount of pollution reaching our waterways. We have ordinances to control the quality and quantity of stormwater runoff, control erosion and sedimentation from construction sites, protect vegetated buffers along streams, and prevent illicit discharge of contaminants to the storm sewer system.

Runoff from the town is collected in a system of ditches, inlets, and pipes, and this, along with overland runoff, flows into streams (Remember, stormwater does not flow to a treatment plant first!). The runoff picks up pollutants from the air, streets, houses, lawns, parking lots, farms, and fields. These pollutants can harm the streams and waterways and pollute rivers downstream. All our runoff makes its way to the Chesapeake Bay, which has problems from the pressure of pollutants.

You can help by minimizing the use of pesticides, herbicides, and lawn chemicals, disposing of motor oil and chemicals properly, and taking other common-sense measures. If you notice what might be pollution in streams or know of someone dumping questionable material in the town, please contact the Town Engineer by phone or [email](#).

To find out more about the Virginia Stormwater Management Program (VSMP) and what you can do to clean up stormwater runoff, go to the [Virginia Department of Environmental Quality](#) (DEQ) website. More great information on what you can do to help keep our waterways clean is also available at the [United States Environmental Protection Agency](#), and check out this educational [video](#), too!

Contact Us



Ingrid Stenbjorn
Town Engineer
[Email](#)

101 Thompson St.
P.O. Box 1600
Ashland, VA 23005

Ph: (804) 798-9219
Fx: (804) 798-4892

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Ph: (804) 798-9219



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You are here: Home > Government > Departments > Public Works > Stormwater Management > MS4 Program

MS4 Program

The Town of Ashland has a Municipal Separate Storm Sewer (MS4) General Permit under the Virginia Stormwater Management Program (VSMP) covering the stormwater system for the town.

Program Plan

The MS4 Program Plan is designed to improve the quality of the water that reaches the Chesapeake Bay.

Annual Reports

You can view the annual report that the town submits each year to the Virginia Department of Conservation and Recreation:

- [2011 Annual Report](#)
- [2012 Annual Report](#)
- [2013 Annual Report](#)

Contact Us



Ingrid Stenbjorn
Town Engineer
[Email](#)

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- Illicit Discharge
- Pet Waste Disposal
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You are here: Home > Government > Departments > Public Works > Stormwater Management > Preventing Stormwater Pollution

Preventing Stormwater Pollution

There are many ways you can help to prevent stormwater pollution, and knowing how you can make a difference and why it is important are helpful.

Best Management Practices (BMPs) are on-site storm water management structures found in shopping centers, office parks, industrial sites, and residential subdivisions and require regular maintenance and inspections.

Car washing guidelines can be useful for anyone looking to wash their car at home, and all car-washing events (such as fund-raisers) require an application from the town and need to be held in locations that meet stormwater guidelines.

Illicit discharge is anything that goes down the storm drain that is not stormwater, and some discharges are both harmful and illegal.

If you are a pet owner, proper pet waste disposal is an easy and important way you can make a difference in water quality.

If you own a septic tank within town limits, a periodic pump-out of your system is required.

Contact Us



Ingrid Stenbjorn
Town Engineer
Email

101 Thompson St.
P.O. Box 1600
Ashland, VA 23005

Ph: (804) 798-9219
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You are here: Home > Government > Departments > Public Works > Stormwater Management > Preventing Stormwater Pollution > Best Management Practices

Best Management Practices

The town requires that all newly developed sites, such as shopping centers, office parks, industrial sites, and residential subdivisions, construct on-site storm water management structures, referred to as Best Management Practices (BMPs). These vary in type, but typically are wet or dry ponds.

BMPs filter storm water or allow contaminants to settle out before stormwater is released to natural streams. Owners of BMPs are required to inspect and maintain BMPs in a manner acceptable to the Town. The Department of Public Works enforces the inspection and maintenance of BMPs on a regular periodic basis.

A regular maintenance and inspection program will save money and time. Visit the link below for a guide to maintaining your BMP:

[Maintaining Stormwater Systems \(Jan 2007\)](#)

[Maintaining Your BMP \(Feb 2000\)](#)

This document is designed for individual property owners, homeowners association representatives, and residential/commercial property managers. The guidebook outlines the basic maintenance and planning tasks to help keep BMPs functioning properly.

Contact Us



Ingrid Stenbjorn
Town Engineer
[Email](#)

101 Thompson St.
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Ashland, VA 23005

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- [Car Washing Guidelines](#)
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- [Septic Tank Pump Out](#)

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You are here: Home > Government > Departments > Public Works > Stormwater Management > Preventing Stormwater Pollution > Car Washing Guidelines

Car Washing Guidelines

Water from vehicle washing can make its way across a hard-surfaced parking lot and enter the storm drainage system. From there, wash water may enter our creeks and streams, potentially harming fish and other aquatic life, and make its way to rivers and, eventually, the Chesapeake Bay. Water from vehicle washing may contain contaminants such as nutrients and hydrocarbons and should not discharge to the storm drainage system, creeks, or streams.

According to State Regulations and the Town of Ashland's Municipal Separate Storm Sewer System (MS4) Management Program Ordinance, only individual residents washing cars may discharge wash water to storm sewers (although it is discouraged). All others discharging from vehicle washing activities to storm sewer are in violation of the Town ordinance.

Car washing events held in the town require approval prior to the event. If your group or organization is planning on holding a fundraising car wash event, please fill out and turn in the [Car Washing Event Application](#). For questions, please contact [Jennifer Schontag](#) in Public Works.

The following are recommendations for anyone washing vehicles:

- If vehicle washing will be done outside, designate an area for on-site vehicle washing that discharges to gravel, grass, or other permeable surface that allows water to infiltrate (i.e., no discharge of wash water from the site).
- Promptly contain, treat, or remove spills of wash water, cleaning products or other fluids
- Use a commercial car wash where wastewater is properly treated.
- Use hoses with nozzles that automatically turn off when left unattended.
- Wash vehicles in an area designed for vehicle washing where the water is discharged to the sanitary sewer system for treatment.
- Do not use acid-based wheel cleaners or engine degreasers unless the waste can be properly disposed of.
- Reduce the amount of soap used by using a bucket of soapy water to re-soap rags or sponges rather than adding more soap directly to rags or sponges.
- Use products labeled "non-toxic," "phosphate free", and "biodegradable". These products can be purchased at most large retail outlets. Note that even biodegradable and nontoxic soaps can be harmful to aquatic life and water quality and must be kept out of the storm drain system.

[Flyer - Car Washing](#)

Contact Us



Ingrid Stenbjorn
Town Engineer
[Email](#)

101 Thompson St.
P.O. Box 1600
Ashland, VA 23005

Ph: (804) 798-9219
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TOWN OF ASHLAND
101 THOMPSON STREET / P.O. BOX 1600
ASHLAND, VIRGINIA 23005
804-798-9219

Car Washing Event Application

Name of Group: _____

Contact Person: _____

Phone #: _____ **Email:** _____

Event Date/Time: _____

Event Location (see "Areas for Vehicle Washing" below): _____

Cleaning Products to be Used (see "Cleaning Products" below): _____

Areas for Vehicle Washing

The following are recommendations for anyone washing vehicles:

- Use a commercial car wash where wastewater is properly treated.
- Wash vehicles in an area designed for vehicle washing where the water is discharged to the sanitary sewer system for treatment.
- If vehicle washing will be done outside, designate an area for on-site vehicle washing that discharges to gravel, grass, or other permeable surfaces that allows water to infiltrate (i.e., no discharge of wash water from the site).
- Use hoses with nozzles that automatically turn off when left unattended.
- Spills of wash water, cleaning products or other fluids should be immediately contained and treated or removed.

Cleaning Products

- Use products labeled "non-toxic," "phosphate free," and "biodegradable." These products can be purchased at most large retail outlets. Note that even biodegradable and nontoxic soaps can be harmful to aquatic life and water quality, and must be kept out of the storm drain system.
- Do not use acid-based wheel cleaners or engine degreasers unless the waste can be properly disposed of.
- Reduce the amount of soap used by using a bucket of soapy water to re-soap rags or sponges rather than adding more soap directly to rags or sponges.

Approved By: _____
Town Engineer

Date: _____

Vehicle Washing Guidelines
Phase II (MS4) Stormwater Program
Town of Ashland

Water from vehicle washing can make its way across a hard surfaced parking lot and enter the storm drainage system. From there, wash water may enter our creeks and streams potentially harming fish and other aquatic life, and make its way to rivers and, eventually, the Chesapeake Bay. Water from vehicle washing may contain contaminants such as nutrients and hydrocarbons and should not discharge to the storm drainage system, creeks or streams.

According to State Regulations and the Town of Ashland's Municipal Separate Storm Sewer System (MS-4) Management Program Ordinance, only individual residents washing cars may discharge wash water to storm sewers (although it is discouraged). All others discharging from vehicle washing activities to storm sewer are in violation of the Town ordinance.

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- Do not use acid-based wheel cleaners or engine degreasers unless the waste can be properly disposed of.
- Reduce the amount of soap used by using a bucket of soapy water to re-soap rags or sponges rather than adding more soap directly to rags or sponges.

Revised 6/14/10

Original Document at: S:\PUBWKS\Storm Water Phase II\illicit discharge\Car Washing\Car Washing Guidance.doc

**While being good to your car,
don't be bad to the river.**



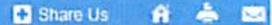
Ever wonder where all that dirty, soapy water goes after it runs off your driveway?

The wastewater flows directly into local streams without treatment.

Wash your car on your lawn, an area that does not drain directly into the street, or take it to a carwash facility that recycles its wash water.

For more information, please visit
www.town.ashland.va.us/carwashing





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Related Pages

- Best Management Practices
- Car Washing Guidelines
- Illicit Discharge
- Pet Waste Disposal
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You are here: Home > Government > Departments > Public Works > Stormwater Management > Preventing Stormwater Pollution > Illicit Discharge

Illicit Discharge

An illicit discharge is anything that goes down the storm drain that is not stormwater. Some discharges are considered cleaner, such as tap water from leaking water pipes and irrigation, groundwater, and spring water. Other discharges are more dangerous, such as wash water from laundry, car or shop floor cleaning, sewage from pipes and septic systems, and liquid wastes such as oil, paint, and any automotive fluids.

Illicit discharges may be intentional or unintentional. Intentional dumping of waste into storm drains by a business or/and individual has legal consequences, as local, state, and federal laws protect the streams and water bodies into which they flow.

Unintentional illicit discharges occur daily, because many people do not realize the ways in which their daily activities contribute to the polluting of our waters. Soapy water from car washing, pet feces that are not picked up, waste water from household appliances that drain directly to the outside, pesticide and fertilizer use, and improper disposal of motor oil, and paint are some of the ways in which an individual may unwittingly be damaging our ecosystem. Other illicit discharges occur when sewer pipes are connected directly to storm water pipes, or when sewer pipes or septic systems leak.

One simple way you can help prevent illicit discharge is by properly disposing of your used or leftover oil, antifreeze, or paint. [Hanover County has local solid waste convenience centers](#) that town residents can utilize.

Contact Us



Ingrid Stenbjorn
Town Engineer
[Email](#)

101 Thompson St.
P.O. Box 1600
Ashland, VA 23005

Ph: (804) 798-9219
Fx: (804) 798-4892

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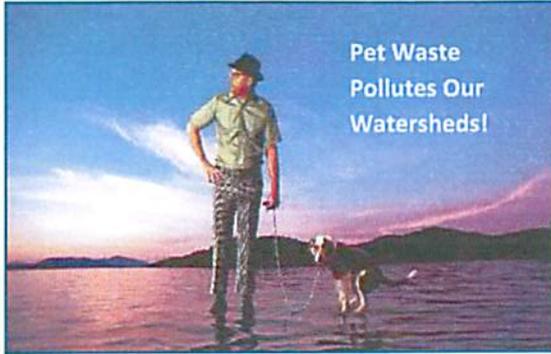


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Pet waste left on the street or lawn does not just go away or fertilize the grass; the rain washes all that pet waste and bacteria into our storm drains and pollutes our streams!

Facts about Pet Waste & Water Quality

- There are approximately 5,000 dogs in Ashland.
- A dog population of 5,000 is estimated to contribute about 2,000 pounds of solid waste every day and has been identified as a major contributor of bacteria to the stream.
- Pet waste contains harmful bacteria such as *E. Coli* and fecal coliform. Waters that contain a high amount of bacteria such as *E. Coli* are unhealthy for human contact and wildlife. Did you know that a **single gram (0.035 ounces) of dog waste can contain 23 million fecal coliform bacteria?**
- In addition to bacteria, pet waste contains nitrogen and phosphorus, nutrients that can speed growth of algae and aquatic weeds which are harmful to streams, rivers and the **Chesapeake Bay**. Excess vegetation growth is unsightly, and it uses up the oxygen that fish and other aquatic life need to live.

Here are some easy steps for dealing with your pet's waste:

- **Always carry a plastic bag** when you walk your dog; re-using an old newspaper delivery bag or plastic grocery bag works well. To avoid unpleasant surprises, check the bag for holes before your pet's walk!
- Use the bag as a glove to pick up the pet waste. Turn the bag inside out around the waste, scoop it up, seal the bag, and **dispose of it in a trash can**. You can also flush un-bagged pet waste down the toilet.
- **Don't place bagged or un-bagged pet waste in storm drains (or ditches)!** Also, do not hose pet waste towards storm drains, as they drain directly to streams that drain to rivers and eventually to the Chesapeake Bay.
- If you have a large yard, **bury un-bagged pet waste** about 5 inches deep in the ground away from vegetable gardens and waterways. Do not add to compost piles, as compost piles may not get hot enough to kill disease-causing organisms.
- Remove waste from areas where children play or you garden.
- **Wash your hands** with warm, soapy water after dealing with pet waste!



Please help

KEEP OUR PARKS AND OUR STREAMS CLEAN!

Pet Waste Stations are located in all Town parks. Please use them to

PICK UP PET WASTE!



Pets 'on-leash' are permitted at all Town of Ashland parks:

- **Carter Park**
- **DeJarnette Park**
- **Pufferbelly Park**
- **Railside Park**
- **S Taylor Street Park**
- **Stony Run Trail**



What You Can Do:

Always clean up after your pet and dispose of the

waste in the trash in a sealed or tied plastic bag.

Flush your pet's waste down the toilet. The waste from your toilet goes to a septic system or wastewater treatment plant that removes pollutants before the water reaches streams, rivers or the Bay.



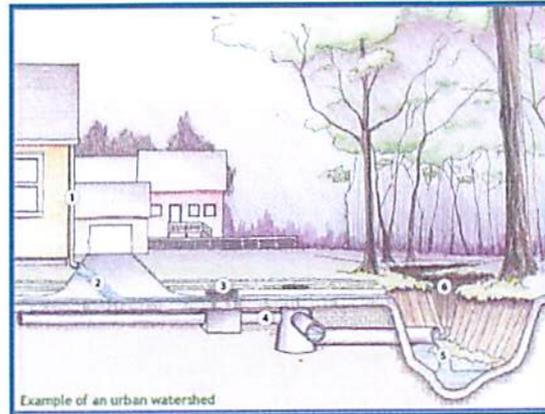
Encourage your neighbors and other pet owners to clean up - it's part of the responsibility of owning a pet.

What You Should Not Do:

Don't dispose of waste in a stormwater drain! These systems go directly to streams that drain to rivers and eventually the Chesapeake Bay.

Don't use pet waste as a fertilizer. The bacteria in pet waste does more harm than good.

Stormwater Run-off Problems



Example of an urban watershed
1 - Downspout 3 - Storm drain 5 - Untreated stormwater discharge
2 - Untreated runoff 4 - Sewer system 6 - Local stream

Run off - Run off is stormwater that flows over impervious surfaces such as rooftops, driveways, sidewalks, streets and to some extent over residential lawns. As it flows, it picks up oils, lawn chemicals, **pet waste** and other pollutants along the way.

Polluted stormwater runoff has been identified as a major cause of water quality problems in the Chesapeake Bay.

CLEAN WATER

THE CLEAR CHOICE

For more information contact:

Jenny Schöntag
804-798-9219

To report illegal dumping or a spill call

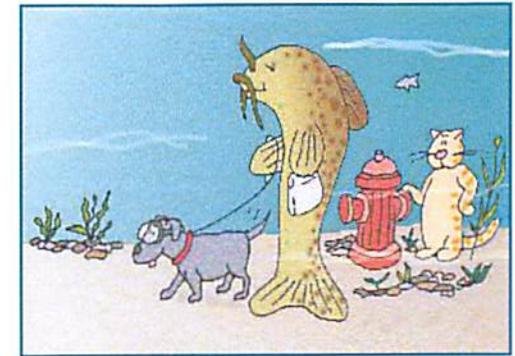
798-9219 or email:

CleanWater@town.ashland.va.us

Printed on recycled paper

CLEAN WATER

THE CLEAR CHOICE



Pet Waste and Water Quality



Town of Ashland
Department of Public Works

P.O. Box 1600
101 Thompson Street
Ashland, VA 23005

Phone: 804-798-9219
Fax: 804-798-4892



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VSMP Town of Ashland Program

VSMP Town of Ashland Program

In accordance with state and federal requirements, the town adopted a stormwater program that went into effect on July 1, 2014. The following items are included in the town's stormwater program:

- [Ordinance](#)
- [Fee Schedule](#)
- [Policies & Procedures](#)

The Town of Ashland will also be administering the [VSMP Construction General Permit](#).

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ORDINANCE NO. 2014-03

ORDINANCE NO. 2014-03 AMENDS THE ASHLAND TOWN CODE BY AMENDING CHAPTER 4.1, "ENVIRONMENTAL PROTECTION," BY ADDITION ARTICLE II, "STORMWATER MANAGEMENT," SECTION 4.1-4 "PURPOSE AND AUTHORITY," SECTION 4.1-5, "DEFINITIONS," SECTION 4.1-6 "STORMWATER PERMIT REQUIREMENT/AGREEMENT IN LIEU OF A STORMWATER MANAGEMENT PLAN; EXEMPTIONS," SECTION 4.1-7 "STORMWATER MANAGEMENT PROGRAM ESTABLISHED; SUBMISSION AND APPROVAL OF PLANS; PROHIBITIONS," SECTION 4.1-8 STORMWATER POLLUTION PREVENTION PLAN; CONTENTS OF PLANS," SECTION 4.1-9 "STORMWATER MANAGEMENT PLAN; CONTENTS OF PLAN," SECTION 4.1-10 "POLLUTION PREVENTION PLAN; CONTENTS OF PLANS," SECTION 4.1-11 "REVIEW OF STORMWATER MANAGEMENT PLAN," SECTION 4.1-12 "TECHNICAL CRITERIA FOR REGULATED LAND DISTURBING ACTIVITIES," SECTION 4.1-13 "LONG-TERM MAINTENANCE OF PERMANENT STORMWATER FACILITIES," SECTION 4.1-14 "MONITORING AND INSPECTIONS," SECTION 4.1-15 "HEARINGS," SECTION 4.1-16 "APPEALS," SECTION 4.1-17, "ENFORCEMENT" SECTION 4.1-18 "FEES," AND SECTION 4.1-19 "PERFORMANCE BOND." ORDINANCE NO. 2014-03 ALSO ESTABLISHES A FEE SCHEDULE FOR STORMWATER MANAGEMENT. ORDINANCE NO. 2014-03 IS CONSIDERED PURSUANT TO THE GRANT OF AUTHORITY CONTAINED IN VA CODE §62.1-44-15:24 *ET SEQ.*

WHEREFORE pursuant to Virginia Code § 62.1-44.15:27, this Ordinance is part of an initiative to integrate the Town of Ashland's (the Town) stormwater management requirements with the Town's erosion and sediment control (Chapter 5), flood insurance and flood plain management (Appendix B), and Chesapeake Bay Preservation Act (Chapter 4.1, Sections III and V) requirements into a unified stormwater program; and

WHEREAS the unified stormwater program is intended to facilitate the submission and approval of plans, issuance of permits, payment of fees, and coordination of inspection and enforcement activities into a more convenient and efficient manner for both the Town and those responsible for compliance with these programs.

NOW THEREFORE BE IT ORDAINED by the Ashland Town Council that the Ashland Town Code be amended by adding Chapter 4.1, Article II, "Stormwater Management" to read in its entirety as follows:

“Sec. 4.1-1. PURPOSE AND AUTHORITY.

- (a) The purpose of this Chapter is to ensure the general health, safety, and welfare of the citizens of the Town and protect the quality and quantity of state waters from the potential harm of unmanaged stormwater.
- (b) This Chapter is adopted pursuant to Virginia Code § 62.1-44.15:24 *et seq.*

Sec. 4.1-2. DEFINITIONS.

In addition to the definitions set forth in Virginia Stormwater Management Program Regulations, 9 VAC 25-870-10, which are expressly incorporated herein by reference, the following words and terms used in this Chapter have the following meanings unless otherwise specified herein. Where definitions differ, those incorporated herein shall have precedence.

"*Administrator*" means the Town of Ashland Director of Public Works or his/her designee.

"*Agreement in Lieu of a Stormwater Management Plan*" means a contract between the VSMP authority and the owner or permittee that specifies methods that shall be implemented to comply with the requirements of a VSMP for the construction of a single-family residence; such contract may be executed by the VSMP authority in lieu of a stormwater management plan.

"*Applicant*" means any person submitting an application for a permit or requesting issuance of a permit under this Chapter.

"*Best management practice*" or "BMP" means schedules of activities, prohibitions of practices, including both structural and nonstructural practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land disturbing activities.

"*Chesapeake Bay Preservation Act land disturbing activity*" means a land disturbing activity including clearing, grading, or excavation that results in a land disturbance equal or greater than 2,500 square feet and less than one acre in all areas of jurisdictions designated as subject to the regulations adopted pursuant to the Chesapeake Bay Preservation Act, Virginia Code § 62.1-44.15:67 *et seq.*

"*Common plan of development or sale*" means a contiguous area where separate and distinct construction activities may be taking place at different times on different schedules.

"*Control measure*" means any best management practice or stormwater facility, or other method used to minimize the discharge of pollutants to state waters.

"*Clean Water Act*" or "CWA" means the federal Clean Water Act (33 U.S.C §1251 *et seq.*), formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500, as amended by Public Law

95-217, Public Law 95-576, Public Law 96-483, and Public Law 97-117, or any subsequent revisions thereto.

"Department" means the Department of Environmental Quality.

"Development" means land disturbance and the resulting landform associated with the construction of residential, commercial, industrial, institutional, recreation, transportation or utility facilities or structures or the clearing of land for non-agricultural or non-silvicultural purposes.

"General permit" means the state permit titled GENERAL VSMP PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES found in 9 VAC Section 25-880-1 *et seq.* of the Regulations authorizing a category of discharges under the CWA and the Act within a geographical area of the Commonwealth of Virginia.

"Land disturbance" or *"land disturbing activity"* means a man-made change to the land surface that potentially changes its runoff characteristics including clearing, grading, or excavation except that the term shall not include those exemptions specified in Section 4.1-3(c) of this Chapter.

"Layout" means a conceptual drawing sufficient to provide for the specified stormwater management facilities required at the time of approval.

"Minor modification" means an amendment to an existing general permit before its expiration not requiring extensive review and evaluation including, but not limited to, changes in EPA promulgated test protocols, increasing monitoring frequency requirements, changes in sampling locations, and changes to compliance dates within the overall compliance schedules. A minor general permit modification or amendment does not substantially alter general permit conditions, substantially increase or decrease the amount of surface water impacts, increase the size of the operation, or reduce the capacity of the facility to protect human health or the environment.

"Owner" or *"Operator"* means the owner or operator of any facility or activity subject to regulation under this Chapter.

"Permit" or *"Land Disturbing Permit"* means an approval to conduct a land disturbing activity issued by the Administrator for the initiation of a land disturbing activity, in accordance with this Chapter, and which may only be issued after evidence of general permit coverage has been provided by the Department.

"Permittee" means the person to whom the Land Disturbing Permit is issued.

"Person" means any individual, corporation, partnership, association, state, municipality, commission, or political subdivision of a state, governmental body, including federal, state, or local entity as applicable, any interstate body or any other legal entity.

"Regulations" means the Virginia Stormwater Management Program (VSMP) Permit Regulations, 9 VAC Section 25-870-10 *et seq.*

"*Site*" means the land or water area where any facility or land disturbing activity is physically located or conducted, including adjacent land used or preserved in connection with the facility or land disturbing activity.

"*State*" means the Commonwealth of Virginia.

"*State Board*" means the State Water Control Board.

"*State permit*" means an approval to conduct a land disturbing activity issued by the State Board in the form of a state stormwater individual permit or coverage issued under a state general permit or an approval issued by the State Board for stormwater discharges from an MS4. Under these state permits, the Commonwealth imposes and enforces requirements pursuant to the federal Clean Water Act and regulations, the Virginia Stormwater Management Act and the Regulations.

"*State Water Control Law*" means Virginia Code § 62.1-44.2 *et seq.*

"*State waters*" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

"*Stormwater*" means precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include stormwater runoff, snow melt runoff, and surface runoff and drainage.

"*Stormwater management plan*" means a document containing material describing methods for complying with the requirements of Section 4.1-6 of this Chapter.

"*Stormwater Pollution Prevention Plan*" or "*SWPPP*" means a document that is prepared in accordance with good engineering practices and that identifies potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the construction site, and otherwise meets the requirements of this Chapter. In addition the document shall identify and require the implementation of control measures, and shall include, but not be limited to the inclusion of, or the incorporation by reference of, an approved erosion and sediment control plan, an approved stormwater management plan, and a pollution prevention plan.

"*Subdivision*" means the same as defined in Section 17-3 of the Ashland Town Code.

"*Total maximum daily load*" or "*TMDL*" means the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources, natural background loading and a margin of safety. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. The TMDL process provides for point versus nonpoint source trade-offs.

"*Town*" means the incorporated Town of Ashland.

"Virginia Stormwater Management Act" or "Act" means Virginia Code § 62.1-44.15:24 *et seq.*

"Virginia Stormwater BMP Clearinghouse website" means a website that contains detailed design standards and specifications for control measures that may be used in Virginia to comply with the requirements of the Virginia Stormwater Management Act and associated regulations.

"Virginia Stormwater Management Program" or "VSMP" means a program approved by the State Board after September 13, 2011, that has been established by a locality to manage the quality and quantity of runoff resulting from land disturbing activities and shall include such items as local Chapters, rules, permit requirements, annual standards and specifications, policies and guidelines, technical materials, and requirements for plan review, inspection, enforcement, where authorized in this article, and evaluation consistent with the requirements of this article and associated regulations.

"Virginia Stormwater Management Program authority" or "VSMP authority" means an authority approved by the State Board after September 13, 2011, to operate a Virginia Stormwater Management Program; for the purpose of this ordinance, it means the Town of Ashland.

Sec. 4.1-3. - STORMWATER PERMIT REQUIREMENT/AGREEMENT IN LIEU OF A STORMWATER MANAGEMENT PLAN; EXEMPTIONS.

- (a) Except as provided herein, no person may engage in any land disturbing activity until a Land Disturbing Permit has been issued by the Administrator in accordance with the provisions of this Chapter or until an Agreement in lieu of a Stormwater Management Plan has been executed.
- (b) A Chesapeake Bay Preservation Act land disturbing activity shall be subject to an erosion and sediment control plan consistent with the requirements of the Erosion and Sediment Control Chapter, a stormwater management plan as outlined under Section 4.1-6, the technical criteria and administrative requirements for land disturbing activities outlined in Section 4.1-9, and the requirements for control measures long-term maintenance outlined under Section 4.1-10.
- (c) Notwithstanding any other provisions of this Chapter, neither a registration statement nor payment of the state's portion of the statewide permit fee shall be required for coverage under the General Permit for Discharges of Stormwater from Construction Activities for construction activity involving a single-family detached residential structure, within or outside a common plan of development or sale. Except as exempt below, an Agreement in lieu of a Stormwater Management Plan must be executed with the Town.
- (d) Notwithstanding any other provisions of this Chapter, the following activities are exempt, unless otherwise required by federal law:

- (1) Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions of Title 45.1 of the Code of Virginia;
- (2) Clearing of lands specifically for agricultural purposes and the management, tilling, planting, or harvesting of agricultural, horticultural, or forest crops, livestock feedlot operations, or as additionally set forth by the State Board in regulations, including engineering operations as follows: construction of terraces, terrace outlets, check dams, desilting basins, dikes, ponds, ditches, strip cropping, lister furrowing, contour cultivating, contour furrowing, land drainage, and land irrigation; however, this exception shall not apply to harvesting of forest crops unless the area on which harvesting occurs is reforested artificially or naturally in accordance with the provisions of Virginia Code § 10.1-1100 *et seq.* or is converted to bona fide agricultural or improved pasture use as described in Subsection B of Virginia Code § 10.1-1163;
- (3) Single-family residences separately built and disturbing less than 2,500 square feet (pursuant to Chapter 4.1, Article III of the Town Code) and not part of a larger common plan of development or sale, including additions or modifications to existing single-family detached residential structures;
- (4) Land disturbing activities that disturb less than 2,500 square feet of land area (pursuant to Chapter 4.1, Article III and V of the Ashland Town Code), except for activities that are part of a larger common plan of development or sale that is one acre or greater of disturbance;
- (5) Discharges to a sanitary sewer or a combined sewer system;
- (6) Activities under a State or federal reclamation program to return an abandoned property to an agricultural or open land use;
- (7) Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original construction of the project. The paving of an existing road with a compacted or impervious surface and reestablishment of existing associated ditches and shoulders shall be deemed routine maintenance if performed in accordance with this Subsection; and
- (8) Conducting land disturbing activities in response to a public emergency where the related work requires immediate authorization to avoid imminent endangerment to human health or the environment. In such situations, the Administrator shall be advised of the disturbance within seven days of commencing the land disturbing activity and compliance with the administrative requirements of Subsection (a) is required within 30 days of commencing the land disturbing activity.

**Sec. 4.1-4. STORMWATER MANAGEMENT PROGRAM ESTABLISHED;
SUBMISSION AND APPROVAL OF PLANS; PROHIBITIONS.**

- (a) Pursuant to Virginia Code § 62.1-44.15:27, the Town hereby establishes a Virginia stormwater management program for land disturbing activities and adopts the applicable Regulations that specify standards and specifications for VSMPs promulgated by the State Board for the purposes set out in Section 4.1-1 of this Chapter. The Town hereby designates Director of Public Works or his/her designee as the Administrator of the Virginia stormwater management program.
- (b) No Land Disturbing Permit shall be issued by the Administrator, until the following items have been submitted to and approved by the Administrator as prescribed herein:
 - (1) A permit application that includes a general permit registration statement, if such statement is required;
 - (2) An erosion and sediment control plan approved in accordance with the Town's Erosion and Sediment Control Chapter 5; and
 - (3) A stormwater management plan or executed agreement in lieu of a stormwater management plan that meets the requirements of Section 4.1-6 of this Chapter.
- (c) No Land Disturbing Permit shall be issued until evidence of general permit coverage is obtained.
- (d) No Land Disturbing Permit shall be issued until the fees required to be paid pursuant to Section 4.1-15, are received.
- (e) No Land Disturbing Permit shall be issued unless and until the permit application and attendant materials and supporting documentation demonstrate that all land clearing, construction, disturbance, land development and drainage will be done according to the approved permit.
- (f) No grading, building or other local permit shall be issued for a property unless a Land Disturbing Permit has been issued by the Administrator.

Sec. 4.1-5. - STORMWATER POLLUTION PREVENTION PLAN; CONTENTS OF PLANS.

- (a) The Stormwater Pollution Prevention Plan (SWPPP) shall include the content specified by Section 9 VAC 25-870-54 and must also comply with the requirements and general information set forth in Section 9 VAC 25-880-70, Section II [stormwater pollution prevention plan] of the general permit.
- (b) The SWPPP shall be amended by the operator whenever there is a change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants to state waters which is not addressed by the existing SWPPP.

- (c) The SWPPP must be maintained by the operator at a central location onsite. If an onsite location is unavailable, notice of the SWPPP's location must be posted near the main entrance at the construction site. Operators shall make the SWPPP available for public review in accordance with Section II of the general permit, either electronically or in hard copy.

Sec. 4.1-6. - STORMWATER MANAGEMENT PLAN; CONTENTS OF PLAN.

A. The Stormwater Management Plan, required in Section 4.1-4 of this Chapter, must apply the stormwater management technical criteria set forth in Section 4.1-9 of this Chapter to the entire land disturbing activity, consider all sources of surface runoff and all sources of subsurface and groundwater flows converted to surface runoff, and include the following information. Individual lots in new residential, commercial, or industrial developments shall not be considered separate land disturbing activities.

- (1) Information on the type and location of stormwater discharges; information on the features to which stormwater is being discharged including surface waters or karst features, if present, and the predevelopment and post-development drainage areas;
- (2) Contact information including the name, address, and telephone number of the owner and the tax reference number and parcel number of the property or properties affected;
- (3) A narrative that includes a description of current site conditions and final site conditions;
- (4) A general description of the proposed stormwater management facilities and the mechanism through which the facilities will be operated and maintained after construction is complete;
- (5) Information on the proposed stormwater management facilities, including:
 - (i) The type of facilities;
 - (ii) Location, including geographic coordinates;
 - (iii) Acres treated; and
 - (iv) The surface waters or karst features, if present, into which the facility will discharge.
- (6) Hydrologic and hydraulic computations, including runoff characteristics;
- (7) Documentation and calculations verifying compliance with the water quality and quantity requirements of Section 4.1-9 of this Chapter.
- (8) A map or maps of the site that depicts the topography of the site and includes:

- (i) All contributing drainage areas;
- (ii) Existing streams, ponds, culverts, ditches, wetlands, other water bodies, and floodplains;
- (iii) Soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
- (iv) Current land use including existing structures, roads, and locations of known utilities and easements;
- (v) Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;
- (vi) The limits of clearing and grading, and the proposed drainage patterns on the site;
- (vii) Proposed buildings, roads, parking areas, utilities, and stormwater management facilities; and
- (viii) Proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, and easements.
- (ix) If an operator intends to meet the water quality and/or quantity requirements set forth in Section 4.1-9 of this Chapter through the use of off-site compliance options, where applicable, then a letter of availability from the off-site provider must be included. Approved off-site options must achieve the necessary nutrient reductions prior to the commencement of the applicant's land disturbing activity except as otherwise allowed by Virginia Code § 62.1-44.15:35.

B. Elements of the stormwater management plans that include activities regulated under Virginia Code § 54.1-400 *et seq.* shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia pursuant to Virginia Code § 54.1-400 *et seq.*

C. A construction record drawing for permanent stormwater management facilities shall be submitted to the Administrator. The construction record drawing shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia, certifying that the stormwater management facilities have been constructed in accordance with the approved plan. The construction record drawing shall be submitted in Auto CAD, and formatted per the Administrator's requirements.

Sec. 4.1-7. – POLLUTION PREVENTION PLAN; CONTENTS OF PLANS.

- (a) Pollution Prevention Plan, required by 9 VAC Section 25-870-56, shall be developed, implemented, and updated as necessary and must detail the design, installation, implementation, and maintenance of effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:
 - (1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment

basin or alternative control that provides equivalent or better treatment prior to discharge;

- (2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater; and
 - (3) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.
- (b) The pollution prevention plan shall include effective best management practices to prohibit the following discharges:
- (1) Wastewater from washout of concrete, unless managed by an appropriate control;
 - (2) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
 - (3) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
 - (4) Soaps or solvents used in vehicle and equipment washing.
- (c) Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.

Sec. 4.1-8. - REVIEW OF STORMWATER MANAGEMENT PLAN.

- (a) The Administrator or any duly authorized agent of the Administrator shall review stormwater management plans and shall approve or disapprove a stormwater management plan according to the following:
- (1) The Administrator shall determine the completeness of a plan in accordance with Section 4.1-6 of this Chapter, and shall notify the applicant, in writing, of such determination, within 15 calendar days of receipt. If the plan is deemed to be incomplete, the above written notification shall contain the reasons the plan is deemed incomplete.
 - (2) The Administrator shall have an additional 60 calendar days from the date of the communication of completeness to review the plan, except that if a determination of completeness is not made within the time prescribed in subdivision (1), then plan shall be deemed complete and the Administrator shall have 60 calendar days from the date of submission to review the plan.
 - (3) The Administrator shall review any plan that has been previously disapproved, within 45 calendar days of the date of resubmission.

- (4) During the review period, the plan shall be approved or disapproved and the decision communicated in writing to the person responsible for the land disturbing activity or his designated agent. If the plan is not approved, the reasons for not approving the plan shall be provided in writing. Approval or denial shall be based on the plan's compliance with the requirements of this Chapter.
 - (5) If a plan meeting all requirements of this Chapter is submitted and no action is taken within the time provided above in subdivision (2) for review, the plan shall be deemed approved.
- (b) Approved stormwater plans may be modified as follows:
- (1) Modifications to an approved stormwater management plan shall be allowed only after review and written approval by the Administrator. The Administrator shall have 60 calendar days to respond in writing either approving or disapproving such request.
 - (2) The Administrator may require that an approved stormwater management plan be amended, within a time prescribed by the Administrator, to address any deficiencies noted during inspection.
- (c) The Administrator shall require the submission of a construction record drawing for permanent stormwater management facilities. The Administrator may elect not to require construction record drawings for stormwater management facilities for which recorded maintenance agreements are not required pursuant to Section 4.1-10 (b).

Sec. 4.1-9 - TECHNICAL CRITERIA FOR REGULATED LAND DISTURBING ACTIVITIES.

- (a) To protect the quality and quantity of state water from the potential harm of unmanaged stormwater runoff resulting from land disturbing activities, the Town hereby adopts the technical criteria for regulated land disturbing activities set forth in Part II B of the Regulations, as amended, 9 VAC Section 25-870-62 through 99, which shall apply to all land disturbing activities regulated pursuant to this Chapter, except as expressly set forth in Subsection (b) of this Section.
- (b) Until June 30, 2019, the grandfathering provisions of 9 VAC Section 25-870-48 may apply, along with technical criteria set forth in Part II C of the Regulations.
- (c) In cases where governmental bonding or public debt financing has been issued for a project prior to July 1, 2012, such project shall be subject to the technical requirements Part II C of the Regulations, as adopted by the Town in Subsection (b) of this Section.
- (d) The Administrator may grant exceptions to the technical requirements of Part II B or Part II C of the Regulations, provided that (i) the exception is the minimum

necessary to afford relief, (ii) reasonable and appropriate conditions are imposed so that the intent of the Act, the Regulations, and this Chapter are preserved, (iii) granting the exception will not confer any special privileges that are denied in other similar circumstances, and (iv) exception requests are not based upon conditions or circumstances that are self-imposed or self-created. Economic hardship alone is not sufficient reason to grant an exception from the requirements of this Chapter.

- (1) Exceptions to the requirement that the land disturbing activity obtain required Land Disturbing Permit shall not be given by the Administrator, nor shall the Administrator approve the use of a BMP not found on the Virginia Stormwater BMP Clearinghouse Website, or any other control measure duly approved by the Director.
 - (2) Exceptions to requirements for phosphorus reductions shall not be allowed unless offsite options otherwise permitted pursuant to 9 VAC Section 25-870-69 have been considered and found not available.
- (e) Nothing in this Section shall preclude an operator from constructing to a more stringent standard at his discretion.

Sec. 4.1-10 - LONG-TERM MAINTENANCE OF PERMANENT STORMWATER FACILITIES

- (a) The Administrator shall require the provision of long-term responsibility for and maintenance of stormwater management facilities and other techniques specified to manage the quality and quantity of runoff. Such requirements shall be set forth in an instrument recorded in the local land records prior to issuance of any permits for construction:
 - (1) Be submitted to the Administrator for review and approval prior to the approval of the stormwater management plan;
 - (2) Be stated to run with the land;
 - (3) Provide for all necessary access to the property for purposes of maintenance and regulatory inspections;
 - (4) Provide for annual inspections and maintenance; and the submission of inspection and maintenance reports, prepared by or under the supervision of a Professional Engineer registered in Virginia, and sealed by that professional, to the Administrator once every three (3) years; and
 - (5) Be enforceable by all appropriate governmental parties.
- (b) At the discretion of the Administrator, such recorded instruments need not be required for stormwater management facilities designed to treat stormwater runoff primarily from an individual residential lot on which they are located, provided it is demonstrated to the satisfaction of the Administrator that future maintenance of

such facilities will be addressed through an enforceable mechanism at the discretion of the Administrator.

- (c) If a recorded instrument is not required pursuant to Subsection 4.1-10 (b), the Administrator shall develop a strategy for addressing maintenance of stormwater management facilities designed to treat stormwater runoff primarily from an individual residential lot on which they are located. Such a strategy may include periodic inspections, homeowner outreach and education, or other method targeted at promoting the long-term maintenance of such facilities. Such facilities shall not be subject to the requirement for an inspection to be conducted by the Administrator or any duly authorized agent of the Administrator.

Sec. 4.1-11. - MONITORING AND INSPECTIONS.

- (a) The Administrator or any duly authorized agent of the Administrator shall inspect the land disturbing activity during construction for:
 - (1) Compliance with the approved erosion and sediment control plan;
 - (2) Compliance with the approved stormwater management plan;
 - (3) Development, updating, and implementation of a pollution prevention plan; and
 - (4) Development and implementation of any additional control measures necessary to address a TMDL.
- (b) The Administrator or any duly authorized agent of the Administrator may, at reasonable times and under reasonable circumstances, enter any establishment or upon any property, public or private, for the purpose of obtaining information or conducting surveys or investigations necessary in the enforcement of the provisions of this Chapter.
- (c) In accordance with a performance bond with surety, cash escrow, letter of credit, any combination thereof, or such other legal arrangement or instrument, the Administrator may also enter any establishment or upon any property, public or private, for the purpose of initiating or maintaining appropriate actions which are required by the permit conditions associated with a land disturbing activity when a permittee, after proper notice, has failed to take acceptable action within the time specified.
- (d) Pursuant to Virginia Code § 62.1-44.15:40, the Administrator may require every Land Disturbing Permit applicant or permittee, or any such person subject to Land Disturbing Permit requirements under this Chapter, to furnish when requested such application materials, plans, specifications, and other pertinent information as may be necessary to determine the effect of his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of this Chapter.

- (e) Post-construction inspections of stormwater management facilities required by the provisions of this Chapter shall be conducted by the Administrator or any duly authorized agent of the Administrator pursuant to the Locality's adopted and State Board approved inspection program, and shall occur, at minimum, at least once every five (5) years except as may otherwise be provided for in Section 4.1-10.

Sec. 4.1-12. – HEARINGS

- (a) Any permit applicant or permittee, or person subject to article requirements, aggrieved by any action of the Town taken without a formal hearing, or by inaction of the Town, may demand in writing a formal hearing before the Town Manager or his/her designee concerning such grievance, provided a petition requesting such hearing is filed with the Administrator within 30 days after notice of such action is given by the Administrator.
- (b) The hearings held under this Section shall be conducted by the Town Manager or his/her designee in accordance with local hearing procedures.

Sec. 4.1-13. - APPEALS.

Any permittee or party aggrieved by a Land Disturbing Permit or enforcement decision of the Administrator is entitled to judicial review thereof by the Hanover County Circuit Court. The circuit court shall conduct such review in accordance with the standards established in § 2.2-4027 of the Code of Virginia, and the decisions of the circuit court shall be subject to review by the Court of Appeals, as in other cases under this article.

Sec. 4.1-14. – ENFORCEMENT

- (a) If the Administrator determines that there is a failure to comply with the land disturbance permit conditions or determines there is an unauthorized discharge, notice shall be delivered to the permittee or person responsible for carrying out the permit conditions by any of the following: verbal warnings, inspection reports, and notices to comply. Notices to comply shall be sent by certified mail to the address specified in the permit application or by delivery at the site of the development activities to the agent or employee supervising such activities.
 - (1) The notice shall specify the measures needed to comply with the permit conditions and shall specify the time within which such measures shall be completed. Upon failure to comply within the time specified, a stop work order may be issued in accordance with Subsection (b) or the permit may be revoked by the Administrator.
 - (2) If a permittee fails to comply with a notice issued in accordance with this Section within the time specified, the Administrator may issue an order requiring the owner, permittee, person responsible for carrying out an approved plan, or the person conducting the land disturbing activities without an approved plan or

required permit to cease all land disturbing activities until the violation of the permit has ceased, or an approved plan and required permits are obtained, and specified corrective measures have been completed.

Such orders shall be issued in accordance with Chapter 5 Section 5-6(b). Such orders shall become effective upon service on the person by certified mail, return receipt requested, sent to his address specified in the land records of the locality, or by personal delivery by an agent of the Administrator. However, if the Administrator finds that any such violation is grossly affecting or presents an imminent and substantial danger of causing harmful erosion of lands or sediment deposition in waters within the watersheds of the Commonwealth or otherwise substantially impacting water quality, it may issue, without advance notice or hearing, an emergency order directing such person to cease immediately all land disturbing activities on the site and shall provide an opportunity for a hearing, after reasonable notice as to the time and place thereof, to such person, to affirm, modify, amend, or cancel such emergency order. If a person who has been issued an order is not complying with the terms thereof, the Administrator may institute a proceeding for an injunction, mandamus, or other appropriate remedy in accordance with Subsection 4.1-14 (c).

- (b) In addition to any other remedy provided by this Chapter, if the Administrator or his designee determines that there is a failure to comply with the provisions of this Chapter, they may initiate such informal and/or formal administrative enforcement.
- (c) Any person violating or failing, neglecting, or refusing to obey any rule, regulation, Chapter, order, approved standard or specification, or any permit condition issued by the Administrator may be compelled in a proceeding instituted in Hanover County Circuit Court by the Town to obey same and to comply therewith by injunction, mandamus or other appropriate remedy.
- (d) Any person who violates any provision of this Chapter or who fails, neglects, or refuses to comply with any order of the Administrator, shall be subject to a civil penalty not to exceed \$32,500 for each violation within the discretion of the court. Each day of violation of each requirement shall constitute a separate offense.
- (1) Violations for which a penalty may be imposed under this Subsection shall include but not be limited to the following:
 - (i) No state permit registration;
 - (ii) No SWPPP;
 - (iii) Incomplete SWPPP;
 - (iv) SWPPP not available for review;
 - (v) No approved erosion and sediment control plan;
 - (vi) Failure to install stormwater BMPs or erosion and sediment controls;
 - (vii) Stormwater BMPs or erosion and sediment controls improperly installed or maintained;
 - (viii) Operational deficiencies;
 - (ix) Failure to conduct required inspections;
 - (x) Incomplete, improper, or missed inspections; and

- (xi) Discharges not in compliance with the requirements of 9 VAC Section 25-880-70 of the general permit.
- (2) The Administrator may issue a summons for collection of the civil penalty and the action may be prosecuted in the Hanover County General District Court.
- (3) In imposing a civil penalty pursuant to this Subsection, the court may consider the degree of harm caused by the violation and also the economic benefit to the violator from noncompliance.
- (4) Any civil penalties assessed by a court as a result of a summons issued by the Town shall be paid into the treasury of the Town to be used for the purpose of minimizing, preventing, managing, or mitigating pollution of the waters of the locality and abating environmental pollution therein in such manner as the court may, by order, direct.
- (e) Notwithstanding any other civil or equitable remedy provided by this Section or by law, any person who willfully or negligently violates any provision of this Chapter, any order of the Administrator, any condition of a permit, or any order of a court shall, be guilty of a misdemeanor punishable by confinement in jail for not more than 12 months or a fine of not less than \$2,500 nor more than \$32,500, or both.

Sec. 4.1-15. FEES

Fees to cover costs associated with plan review, inspection, and implementation of the Town's VSMP shall be imposed by the Town pursuant to the Stormwater Fee Schedule. State program fees are imposed by the state pursuant to the regulations.

All incomplete payments will be deemed as non-payments. The Town shall provide notification to the state of any incomplete payments.

Interest may be charged for late payments at the underpayment rate set forth in § 58.1-15 of the Code of Virginia and is calculated on a monthly basis at the applicable periodic rate. A 10% late payment fee shall be charged to any delinquent (over 90 days past due) account.

The Department of Environmental Quality and the Town are entitled to all remedies available under the Code of Virginia in collecting any past due amount.

Sec. 4.1-16. PERFORMANCE BOND

Prior to issuance of any permit, the Applicant shall be required to submit a reasonable performance bond with surety, cash escrow, letter of credit, any combination thereof, or such other legal arrangement acceptable to the Administrator, to ensure that measures could be taken by the Town at the Applicant's expense should the Applicant fail, after proper notice, within the time specified to initiate or maintain appropriate actions which may be required of him by the permit conditions as a result of his land disturbing activity. If the Town takes such action upon such failure by the Applicant, the Town may collect from the Applicant for the difference should the amount of the reasonable cost of such action exceed

the amount of the security held, if any. Following the completion of the requirements of the permit conditions, such bond, cash escrow, letter of credit or other legal arrangement, or the unexpended or unobligated portion thereof, shall be refunded to the Applicant or terminated.”

THIS ORDINANCE SHALL TAKE EFFECT ON JULY 1, 2014.

ORDINANCE NO. 2014-03

THIS ORDINANCE SHALL TAKE EFFECT ON JULY 1, 2014.

Stormwater Fee Schedule

The following total fees to be paid by an applicant apply to (i) any operator seeking coverage under a July 1, 2014, General Permit for Discharges of Stormwater from Construction Activities or (ii) on or after July 1, 2014, to any operator seeking coverage under a General Permit for Discharges of Stormwater from Construction Activities, a state or federal agency that does not file annual standards and specifications, or an individual permit issued by the Virginia State Water Control Board. For coverage under the General Permit for Discharges of Stormwater from Construction Activities, the Town will collect no more than 50% of the total fee to be paid by an applicant set out in this part shall be due at the time that a stormwater management plan or an initial stormwater management plan is submitted for review in accordance with [9VAC25-870-108](#). The remaining total fee balance to be paid by an applicant shall be due prior to the issuance of coverage under the General Permit for Discharges of Stormwater from Construction Activities.

All incomplete payments will be deemed as non-payments. The Town of Ashland (the Town) shall provide notification to the state of any incomplete payments.

Interest may be charged for late payments at the underpayment rate set forth in § 58.1-15 of the Code of Virginia and is calculated on a monthly basis at the applicable periodic rate. A 10% late payment fee shall be charged to any delinquent (over 90 days past due) account.

The Department of Environmental Quality and the Town are entitled to all remedies available under the Code of Virginia in collecting any past due amount.

When a site or sites are purchased for development within a previously permitted common plan of development or sale, the applicant shall be subject to fees ("total fee to be paid by applicant" column) in accordance with the disturbed acreage of their site or sites according to the following table.

Fee type	Total fee to be paid by applicant*	DEQ portion **
Chesapeake Bay Preservation Act Land-Disturbing Activity (not subject to General Permit coverage; sites within designated areas of Chesapeake Bay Act localities with land-disturbance acreage equal to or greater than 2,500 square feet and less than one acre)	\$290	\$0
General / Stormwater Management - Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land-disturbance acreage less than one acre, except for single-family detached residential structures)	\$290	\$81
General / Stormwater Management - Small	\$209	\$0

Stormwater Fee Schedule

Fee type	Total fee to be paid by applicant*	DEQ portion **
Construction Activity/Chesapeake Bay Preservation Act Land-Disturbing Activity (not subject to General Permit coverage)/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land-disturbance acreage less than 5 acres)		
General / Stormwater Management - Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than one acre and less than five acres)	\$2,700	\$756
General / Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than five acres and less than 10 acres)	\$3,400	\$952
General / Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$4,500	\$1,260
General / Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 50 acres and less than 100 acres)	\$6,100	\$1,708
General / Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 100 acres)	\$9,600	\$2,688
Individual Permit for Discharges of Stormwater from Construction Activities (This will be administered by DEQ)	\$15,000	\$15,000
<p>* Includes both Town and DEQ portions where applicable. ** Based on 28% of "total fee to be paid by applicant". If the project is completely administered by the Department of Environmental Quality (DEQ), such as may be the case for a state or federal project or projects covered by individual permits, the entire applicant fee shall be paid to DEQ.</p>		

Fees for the modification or transfer of registration statements from the General Permit for Discharges of Stormwater from Construction Activities issued by the State Board shall be imposed in accordance with the following table. If the general permit modifications result in changes to stormwater management plans that require additional review by the Town, such reviews shall be

Stormwater Fee Schedule

Page 3 of 4

subject to the following fees. The fee assessed will be based on the total disturbed acreage of the site. In addition to the general permit modification fee, modifications resulting in an increase in total disturbed acreage will pay the difference in the initial permit fee paid and the permit fee that would have applied for the total disturbed acreage in the previous table.

General / Stormwater Management – Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land-disturbance acreage less than one acre, except for single-family detached residential structures)	\$20
General / Stormwater Management – Small Construction Activity/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land-disturbance acreage less than 5 acres where the locality is the VSMP authority)	\$20
General / Stormwater Management – Small Construction Activity/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land-disturbance acreage less than 5 acres where the DEQ is the VSMP authority)	\$0
General / Stormwater Management – Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than one and less than five acres)	\$200
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than five acres and less than 10 acres)	\$250
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$300
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 50 acres and less than 100 acres)	\$450
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 100 acres)	\$700
Individual Permit for Discharges of Stormwater from Construction Activities ¹	\$5,000

The following annual permit maintenance fees apply. With respect to the General Permit for Discharges of Stormwater from Construction Activities, these fees shall apply until the state permit coverage is terminated.

¹ [Regulatory Authority: 9VAC25-870-825. Fees for the modification or transfer of individual permits or of registration statements for the General Permit for Discharges of Stormwater from Construction Activities. Statutory Authority: §§ [62.1-44.15:25](#) and [62.1-44.15:28](#) of the Code of Virginia.]

Stormwater Fee Schedule

Page 4 of 4

Chesapeake Bay Preservation Act Land-Disturbing Activity (not subject to General Permit coverage; sites within designated areas of Chesapeake Bay Act localities with land-disturbance acreage equal to or greater than 2,500 square feet and less than 1 acre)	\$50
General / Stormwater Management – Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land-disturbance acreage less than one acre, except for single-family detached residential structures)	\$50
General / Stormwater Management – Small Construction Activity/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land-disturbance acreage less than 5 acres where the locality is the VSMP authority)	\$50
General / Stormwater Management – Small Construction Activity/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land-disturbance acreage less than 5 acres where DEQ is the VSMP authority)	\$0
General / Stormwater Management – Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance equal to or greater than one acre and less than five acres)	\$400
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than five acres and less than 10 acres)	\$500
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$650
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 50 acres and less than 100 acres)	\$900
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater 100 acres)	\$1,400
Individual Permit for Discharges from Construction Activities ²	\$3,000

² [Regulatory Authority: 9VAC25-870-830. State permit maintenance fees. Statutory Authority §§ 62.1-44.15:25 and 62.1-44.15:28 of the Code of Virginia.]

Virginia Stormwater Management Program

Policies and Procedures

Town of Ashland



JULY 1, 2014

Prepared By:
Timmons Group
1001 Boulders Parkway, Suite 300
Richmond, VA 23225



TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

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Section 1 Purpose

This document summarizes the Town of Ashland's policies and procedures for the administration, plan review, inspection, and enforcement of the Virginia Stormwater Management Program (VSMP) in accordance with §62.1-44.15:24 et seq. of the Code of Virginia and the Town's Stormwater Management Ordinance § 4.1-4 through 4.1-199 (or § 4.1-500 through 4.1-599).

Section 2 Program Authority

The Department of Public Works serves as the Program Authority (Administrator) for the Town's Virginia Stormwater Management Program. The Department of Public Works will accept complete registration statements and oversee all components of the stormwater program. Plan review and approval, inspections, and enforcement actions will be performed by staff within the Department of Public Works under the supervision of the Director of Public Works (Director).

Section 3 Program Administration

3.1 Permit Registration/Termination

VSMP Construction Permit registrations and all associated plans and calculations shall be submitted to the Department of Planning and Community Development along with the required fees set forth in Section 5. Planning and Community Development staff will record applicant submittals and forward documents to the Department of Public Works engineering staff. Engineering staff will review the VSMP Construction Permit registrations and enter associated information into the Town's stormwater management database.

The Department of Public Works engineering staff will ensure pre-construction requirements are met by applicants. DEQ will issue a "Notice of Coverage" ~~_____~~. Similarly, The Department of Public Works will ensure all requirements are met upon completion of construction. DEQ will issue a "Notice of Termination" ~~_____~~.

3.2 Reporting

Per 9VAC25-870-126 of the State Regulations, the Town will report the following information to DEQ by October 1st of each year:

- Information on each permanent stormwater management facility completed during the fiscal year.
- Number and type of enforcement actions taken during the fiscal year.
- Number of exceptions granted during the fiscal year.

The Department of Public Works engineering staff will report annually to DEQ. Information pertaining to stormwater management facilities, enforcement actions, and exceptions will be recorded and maintained in the Town's ~~_____~~.

3.3 Record Keeping

Per 9VAC25-870-126 of the State Regulations, the Town will keep VSMP records as follows:

- All registration statements submitted in accordance with VSMP Construction Permit coverage will be documented and retained for at least 3 years from the date of project completion or permit termination.
- Project records, including approved stormwater management plans, will be kept for 3 years after permit termination or project completion.
- The Town will require the submission of drawing record drawing signed and sealed by a professional registered in the Commonwealth of Virginia following the construction of permanent stormwater management facilities. Digital record drawings shall be submitted in Auto CAD format in accordance with the American Society of Mechanical Engineers' (ASME) standards (under development). The record drawings will be maintained in perpetuity or until a stormwater management facility is removed.
- Stormwater management facility inspection records will be documented and retained for at least 5 years from the date of inspection.

The Department of Public Works engineering staff will record and maintain all VSMP records. Paper documents will be scanned and electronically linked to the Town's shared digital records.

Section 4 Plan Review and Approval

The Department of Public Works engineering staff will review Stormwater Management Plans and Erosion and Sediment Control Plans, as required based on the land disturbance threshold. Plan reviewers will be certified as specified under sections §62.1-44.15:30 and §62.1-44.15:53 of the Code of Virginia.

4.1 Plan Review Criteria

Plan reviewers will confirm plan adequacy with the Town's Site Plan Review Application checklist. Stormwater management plans will be reviewed for compliance with 9VAC25-870-55 of the State Regulations and the following technical criteria:

- water quality design [9VAC25-870-63]
- water quality compliance [9VAC25-870-65]
- water quantity [9VAC25-870-66]
- offsite compliance [9VAC25-870-69]
- design storms and hydrologic methods [9VAC25-870-72]
- stormwater harvesting [9VAC25-870-74]
- linear development projects [9VAC25-870-76]
- stormwater management impoundment structures or facilities [9VAC25-870-85]
- comprehensive stormwater management plans [9VAC25-870-92]

Plan reviewers will review the application and design of specific stormwater management BMPs using the BMP Design Checklists as provided in Appendix 8-A of the Virginia Stormwater Management Handbook (2nd Edition, 2013) and in accordance with the Virginia Stormwater BMP Clearinghouse.

Erosion and Sediment Control plans will be reviewed for compliance with State Erosion and Sediment Control Regulations [9VAC25-840] and the current edition of the Virginia Erosion and Sediment Control Handbook.

4.2 Review Times

The Department of Public Works engineering staff will review according to the following timeline:

- The applicant will be notified, in writing, of plan completeness within 15 calendar days of receipt. If the plan is deemed to be incomplete, the above written notification will contain the reasons the plan is deemed incomplete.
- Erosion and Sediment Control Plans will be approved or disapproved within 45 of receipt.
- Stormwater management plans will be approved or disapproved within 60 calendar days from the date of the communication of plan completeness.
- Previously disapproved stormwater plans will be approved or disapproved within 45 calendar days of the date of resubmission.

If a plan is not approved, the Town will specify the modifications, terms, and conditions that will permit approval of the plan and communicate these requirements to the applicant in writing. If no action is taken by the Town within the time specified in this subsection, the plan will be deemed approved and the permit issued.

Section 5 Stormwater Pollution Prevention Plan Required

A stormwater pollution prevention plan (SWPPP) must be prepared in accordance with the requirements of the General Permit for Stormwater Discharges from Construction Activities prior to submitting the registration statement. By signing the registration statement the operator certifies that the SWPPP has been prepared. Complete SWPPPs, developed in accordance with 9VAC25-870-54 of the State Regulations, include the following components:

1. Approved Erosion and Sediment Control Plan
2. Approved Stormwater Management Plan
3. Pollution Prevention Plan (PPP)
4. Additional control measures for receiving waters with TMDLs and associated WLAs.

The Department of Public Works engineering staff will provide an electronic template SWPPP file including all necessary components (under development) to ensure complete stormwater pollution prevention plans (SWPPP) are developed prior to issuance of a land disturbance permit.

Section 6 Fees

The Town will collect VSMP permit fees in accordance with 9VAC870-700 of the State Regulations. All fees will be collected by the Department of Planning and Community Development at the time of permit submittal by the applicant. The Town will route 28% of the fee collected to the Department of Environmental Quality. The fee structure is as follows:

6.1 Fees for Permit Issuance

The current fees to cover costs associated with the implementation of a VSMP related to land disturbing activities and issuance of general permit coverage and VSMP authority permits will be imposed in accordance with the following table. When a site or sites has been purchased for development within a previously permitted common plan of development or sale, the Applicant shall be subject to fees in accordance with the disturbed acreage of their site or sites. 50% of the total fee will be paid by the Applicant at the time a stormwater management plan or an initial stormwater management plan is submitted to the Town for review. The remaining total fee balance will be paid by the Applicant prior to the issuance of coverage under the General Permit for Discharges of Stormwater from Construction Activities.

Fee type	Total fee to be paid by Applicant (Town + DEQ portions, where applicable)	DEQ fee to be paid by Applicant total fee paid)
Chesapeake Bay Preservation Act Land-Disturbing Activity (not subject to General Permit coverage; sites within designated areas of Chesapeake Bay Act localities with land-disturbance acreage equal to or greater than 2,500 square feet and less than 1 acre)	\$290	\$0
General / Stormwater Management - Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land-disturbance acreage less than one acre, except for single-family detached residential structures)	\$290	\$81
General / Stormwater Management – Small Construction Activity/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land-disturbance acreage less than 5 acres)	\$209	\$0
General / Stormwater Management - Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 1 acre and less than 5 Acres)	\$2,700	\$756
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 5 acres and less than 10 acres)	\$3,400	\$952
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$4,500	\$1,260

Fee type	Total fee to be paid by Applicant (Town + DEQ portions, where applicable)	DEQ fee to be paid by Applicant (total fee paid)
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 50 acres and less than 100 acres)	\$6,100	\$1,708
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 100 acres)	\$9,600	\$2,688
Individual Permit for Discharges of Stormwater from Construction Activities (This will be administered by the department)	\$15,000	\$15,000
* If the project is completely administered by DEQ such as may be the case for a state or federal project or projects covered by individual permits, the entire applicant fee shall be paid to the DEQ.		

6.2 Fees for the Modification or Transfer of Permits

Fees for the modification or transfer of registration statements from the general permit issued by the State Board shall be imposed in accordance with the following table. If the general permit modifications result in changes to stormwater management plans that require additional review by the Town, such reviews shall be subject to the following fees. The fee assessed will be based on the total disturbed acreage of the site. In addition to the general permit modification fee, modifications resulting in an increase in total disturbed acreage will pay the difference in the initial permit fee paid and the permit fee that would have applied for the total disturbed acreage in the previous section.

Type of Permit	Fee Amount
General / Stormwater Management – Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land disturbance acreage less than 1 acre)	\$20
General / Stormwater Management – Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 1 and less than 5 acres)	\$200
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 5 acres and less than 10 acres)	\$250
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$300
General / Stormwater Management – Large Construction Activity/Land Clearing	\$450

Type of Permit	Fee Amount
(Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 50 acres and less than 100 acres)	
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 100 acres)	\$700
Individual Permit for Discharges of Stormwater from Construction Activities	\$5,000

6.3 Annual Permit Maintenance Fees

Annual permit maintenance fees will be imposed in accordance with the following table, including fees imposed on expired permits that have been administratively continued. With respect to the general permit, these fees shall apply until the permit coverage is terminated.

Type of Permit	Fee Amount
Chesapeake Bay Preservation Act Land-Disturbing Activity (not subject to General Permit coverage; sites within designated areas of Chesapeake Bay Act localities with land-disturbance acreage equal to or greater than 2,500 square feet and less than 1 acre)	\$50
General / Stormwater Management – Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land disturbance acreage less than 1 acre)	\$50
General / Stormwater Management – Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance equal to or greater than 1 acre and less than 5 acres)	\$400
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 5 acres and less than 10 acres)	\$500
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$650
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater than 50 acres and less than 100 acres)	\$900
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land disturbance acreage equal to or greater 100 acres)	\$1,400
Individual Permit for Discharges from Construction Activities	\$3,000

6.4 Incomplete and Late Payments

All incomplete payments will be deemed as non-payments. The Town will provide notification to the state of any incomplete payments.

Interest will be charged for late payments at the underpayment rate set forth in § 58.1-15 of the Code of Virginia and is calculated on a monthly basis at the applicable periodic rate.

A 10% late payment fee will be charged to any delinquent (over 90 days past due) account.

DEQ and the Town are entitled to all remedies available under the Code of Virginia in collecting any past due amount.

Section 7 Inspection

7.1 Land Disturbing Activities

The inspection of land disturbing activities will be performed by the Department of Public Works. Inspectors will routinely inspect active constructions site for the following:

- Current and complete stormwater pollution prevent plan, and compliance with said plain;
- Compliance with the approved erosion and sediment control plan;
- Compliance with the approved stormwater management plan;
- Development, updates, and implementation of a pollution prevention plan; and
- Development and implementation of any additional control measures necessary to address a TMDL.

Inspections will be conducted before commencement of land disturbing activities, routinely during construction, and after significant rain events. Inspectors will document site conditions and permit compliance during each site visit. Inspection reports will be recorded and maintained within the Town's stormwater database.

7.2 Post-Construction

The Department of Public Works will maintain post-construction inspection program for stormwater management facilities (BMPs). All facilities will be inspected at least once every 5 years. Inspections will confirm compliance with long-term maintenance provisions in accordance with the Town's Stormwater Management Ordinance.

After an inspection performed by the Town, if maintenance of one or more BMPs is required, the Department of Public Works will serve the landowner a written notice describing the condition of the facilities and specifying the required repairs, replacements or other maintenance to be made to correct such deficiencies.

All BMP inspection documentation, including landowner notices, will be recorded and maintained within the Town's stormwater database.

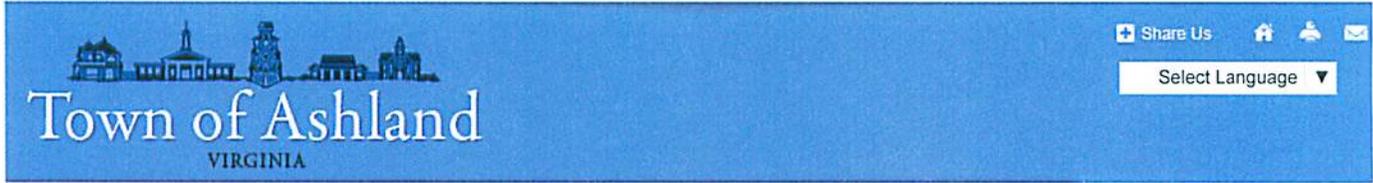
Section 8 Enforcement



The Department of Public Works will enforce the Town's M Enforcement provisions and procedures to conduct enforcement are provided in the Town's Stormwater Management Ordinance.

Section 9 Bonds

Bonds will be required per Town Ordinance.



Related Pages

VSMP Construction General Permit

Popular Links

- Online Bill Pay
- Student Center
- Notify Me
- Forms
- Report a Concern

You are here: Home > Government > Departments > Public Works > Engineering > Construction > VSMP Construction General Permit

VSMP Construction General Permit

Who Must Apply for Construction General Permit Coverage

- Operators of construction activities resulting in land disturbance equal to or greater than one acre.
- Operators of construction activities resulting in land disturbance less than one acre that are part of a larger common plan of development or sale that ultimately disturbs one or more acres. A larger common plan of development or sale is a contiguous area where separate and distinct construction activities may be taking place at different times on different schedules. General permit coverage is required if one or more acres of land will be disturbed, regardless of the size of the individually owned or developed sites.

Single-Family Residences Not Part of a Common Plan of Development or Sale

Single-family residences separately built, that disturb less than one acre of land, and that are not part of a larger common plan of development or sale, including additions or modifications to existing single-family detached residential structures, are exempt activities. Registration for coverage under the general permit to discharge stormwater from construction activities is not required in accordance with § 62.1-44.15:34.C.3 of the Virginia Stormwater Management Act.

Permit Registration Statements and Fees

Completed VSMP Construction General Permit Registration Statements, fees and related documents are to be submitted to the Town of Ashland Department of Public Works.

- [2014 Registration Statement](#)
- [2014 Permit Fee Form & Fee Schedule](#)
- [2014 Notice of Termination](#)
- [2014 Transfer of Ownership Agreement](#)
- [2014 General Permit for Discharges of Stormwater from Construction Activities](#)

Stormwater Pollution Prevention Plans (SWPPP)

The construction general permit requires the construction activity operator to develop and implement a site-specific SWPPP. The SWPPP must be prepared prior to submitting a registration statement for permit coverage to the Town of Ashland. The SWPPP is to be retained at the construction site along with a copy of the general permit and general permit coverage letter.

The Town of Ashland requires that the following template and plan sheets be used to develop a SWPPP:

- [SWPPP Template](#) or [SWPPP Template for Single Family Residential Construction](#)
- Pollution Prevention Plan
- Erosion & Sediment Control Detail Sheet

For detailed information on the VSMP construction general permit, please visit the [DEQ website](#).

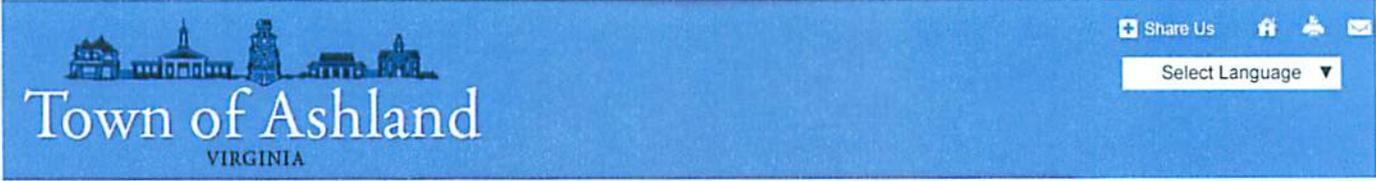


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Ph: (804) 798-9219



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Related Pages

- College Park Improvements
- Hanover Avenue LID
- Municipal Parking Lot
- Railroad Avenue Streetscaping

Popular Links

- [Online Bill Pay](#) 
- [Student Center](#) 
- [Notify Me](#) 
- [Forms](#) 
- [Report a Concern](#) 

You are here: Home > Government > Departments > Public Works > Stormwater Management > Water Quality Improvement Projects

Water Quality Improvement Projects

Find out about past, present, and future projects in the town that improve water quality:

- [College Park Improvements](#)
- [Hanover Avenue LID](#)
- [Municipal Parking Lot](#)
- [Railroad Avenue Streetscaping](#)

Contact Us



Ingrid Stenbjorn
Town Engineer
[Email](#)

101 Thompson St.
P.O. Box 1600
Ashland, VA 23005

Ph: (804) 798-9219
Fx: (804) 798-4892

Hours
Monday - Friday
8:30 am - 5:00 pm

[Staff Directory](#)



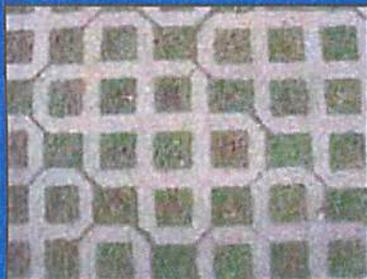
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**Attachment 3:
Example of Stormwater
Pollution Public Education
Material**



Maintaining Stormwater Systems

*A Guidebook for Private Owners and Operators
in Northern Virginia*



Northern Virginia Regional Commission

JANUARY 2007

The Northern Virginia Regional Commission (NVRC) is a regional council of local governments in Northern Virginia.

NVRC serves as a neutral forum where representatives of the member governments can discuss and decide how to approach problems that cross county, city, and town boundaries.

NVRC helps member governments share information about common problems; recognize opportunities to save money or to be more effective by working together; and take account of regional influences in planning and implementing public policies and services at the local level.

Purcellville

Leesburg

**Loudoun
County**

NVRC's programs and policies are established by a 25-member Board of Commissioners. The Board is composed of elected officials appointed by the governing bodies of NVRC's 14 member localities that include:

Counties

- Arlington
- Fairfax
- Loudoun
- Prince William

Cities

- Alexandria
- Fairfax
- Falls Church
- Manassas
- Manassas Park

Towns

- Dumfries
- Herndon
- Leesburg
- Purcellville
- Vienna

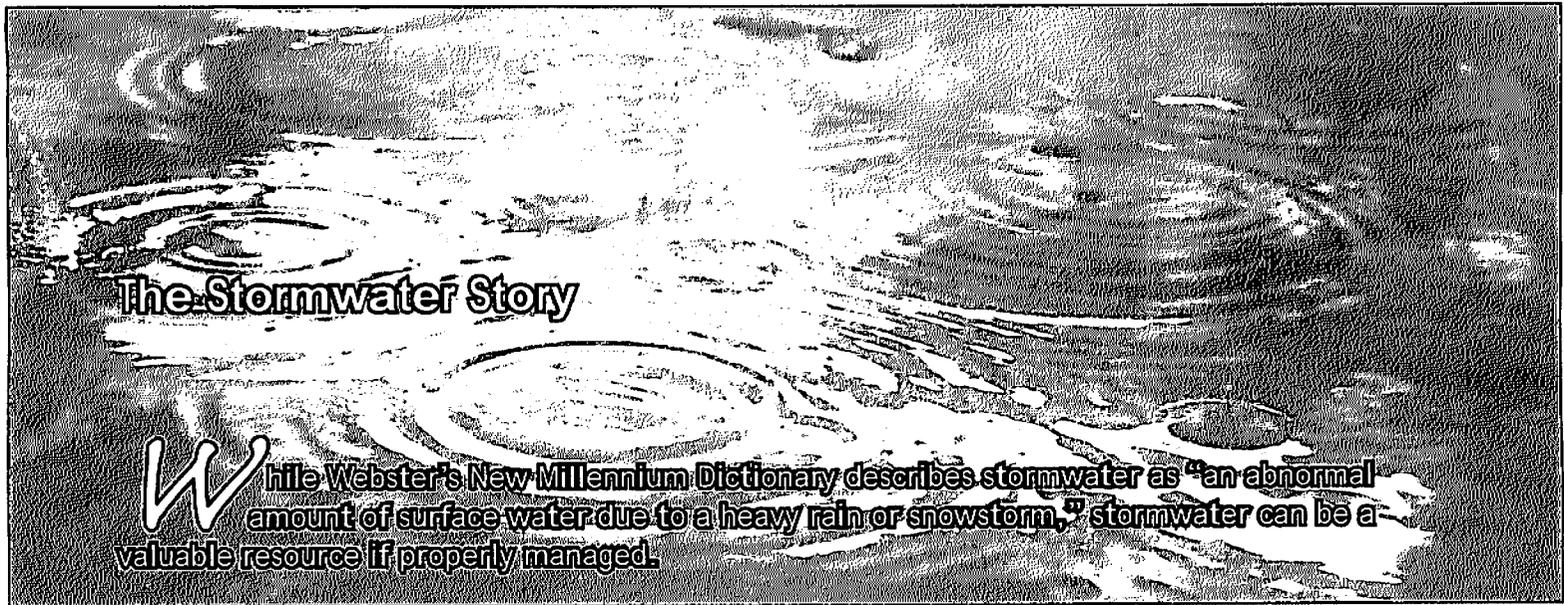


THIS GUIDEBOOK IS a resource on maintaining stormwater management facilities. However, it is not a set of rules and regulations or a manual that provides guidance on how to design or build a stormwater management facility.

For specific information regarding regulations, contact your local government agency.

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The Stormwater Story

While Webster's New Millennium Dictionary describes stormwater as "an abnormal amount of surface water due to a heavy rain or snowstorm," stormwater can be a valuable resource if properly managed.

Rainfall and snow melt keep gardens green, streams and rivers full, and wells from running dry. However, stormwater problems can occur when there is too much of a good thing, or when excessive pollution and changes in land use prevent natural infiltration and filtering processes from taking place.

Stormwater Challenges

Once rain reaches the ground, what happens next depends largely on land cover type. Rain falling in a forest is slowed, filtered, and absorbed as it makes its way into the ground or to the nearest stream, river, or reservoir. In contrast, hard, impervious surfaces such as roof tops and roads send stormwater rushing to the nearest ditch, culvert, storm drain, and stream.

This stormwater picks up pollutants, such as heavy metals, gas, oil, nutrients, and sediment, along the way. Uncontrolled stormwater erodes stream banks, causes flooding, and carries nutrients and sediment downstream. An excess of nutrients contributes to the expansion of oxygen-depleted "dead zones" in local waterways, the Potomac River, and the Chesapeake Bay.

Stormwater Solutions

To improve the quality and reduce the quantity of stormwater runoff, before it enters natural waterways, stormwater **Best Management Practices**, or **BMPs**, are prevalent throughout Northern Virginia's residential and commercial areas.

BMPs range from structural facilities, such as ponds, bioretention areas, and underground vaults to non-structural practices, such as street-sweeping and educational efforts.

Simple Things Residents Can Do

There are several simple things residents can do to ensure stormwater facilities function properly and the downstream aquatic environment is protected.

- Pick up after pets, always. Place their waste in the trash or flush it down the toilet.
- Place motor oil, paint and antifreeze in separate sturdy containers and recycle them at a local disposal facility.
Never pour them down the storm drain.
- Compost yard waste or bag it for municipal collection.
- Recycle or put litter in the trash.
- Fertilize in the fall, if at all, to reduce algal blooms.
- Call 9-1-1 if there is a visible oil spill or other liquid spill into a waterway.

The Stormwater Story

Over time, the approaches to managing stormwater have adapted to a variety of different challenges. The techniques used to control stormwater evolved from ditches and pipes that remove water quickly and reduce flooding to an intricate system of practices that retain water and improve its quality.

Short History of Stormwater “Solutions”

Pre-1900s - *Run It All in Ditches*

Everything (stormwater, kitchen waste, wastewater) drained to the nearest stream.

Early-1900s - *Run It All in Pipes*

All waste efficiently got to the stream through the same pipe. But, downstream neighbors became ill due to upstream-generated waste. It was then recognized that sewage and stormwater require different levels of water quality treatment.

From 1940s - *Run It in Separate Stormwater Pipes*

A system of catch basins and pipes was developed to get stormwater to the nearest stream.

Early-1970s - *Keep It From Stormwater Pipes*

Stormwater was detained in ponds. This approach worked in theory but not in practice, as too many detention ponds releasing water at a controlled rate at the same time caused downstream flooding and an increase in the frequency and duration of runoff events.

1970-80s - *Well, Just Don't Cause Flooding*

Stormwater Master Plans were developed. However, very few plans were actually completed as designed, and stormwater runoff was identified as a major pollution source.

Late-1980s - *Oh, and Don't Pollute Either*

Best Management Practices or ways to improve the quality of stormwater runoff were implemented. However, the lack of good data on BMP efficiency or comprehensive monitoring programs were problematic.

Early-1990s - *It's the Ecology*

Use of biological criteria and bioassessment protocols became a common parameter for determining the type of stormwater management practice. But there were still questions about which parameters actually contribute to solutions to runoff problems.

Late-1990s - *Water is Water is Watershed*

Planning was conducted according to where the water flows, a watershed approach. However, people didn't relate to watersheds, and the watershed approach may be too large in scale to have an impact at the site level or to be meaningful to residents, which is where political change begins.

Present - *Green and Bear It*

A range of approaches is considered to address basic issues and institutional practices associated with the way in which land is used or developed: green infrastructure, conservation development, low impact development (LID), better site design, etc. This paradigm returns to small-scale distributed approaches that will succeed if supported and enforced by local governments.

Adapted from Land and Water, May-June 2004, Andy Reese of Amec Earth and Environmental

Future - *A Vision of Comprehensive Stormwater Management*

Mimicking pre-development runoff characteristics will become increasingly important as regulations continue to encourage using watershed planning for expanded nutrient control and streambank preservation. Monitoring the effectiveness of green technologies at improving the quality and decreasing the quantity of stormwater runoff leads to improved designs and performance criteria. Stormwater is viewed as a resource as opposed to a waste product.

Key Points to Remember When Reading this Guidebook

A thorough inspection and maintenance program for any stormwater management facility will save time and money in the long term.

Identify Facility Characteristics and Maintenance Needs

Understand how the facility works and its specific maintenance needs. While this Guidebook includes general information on the maintenance needs of common stormwater management facilities, valuable information may also be gained by consulting with the local government.

Check the Maintenance Agreement

If there is a stormwater management facility maintenance agreement with the local government, consult it often to ensure that specific obligations are met.

Perform Routine Inspections

The frequency of required inspections may be found in the maintenance agreement, the technical guide provided by the manufacturer, or on the facility's design specifications. In some local jurisdictions, all inspections are conducted by staff, while maintenance is typically the responsibility of the owner.

Define Maintenance Tasks, Personnel, and Equipment

Defining maintenance tasks and who will undertake these tasks - along with establishing a regular inspection program - is the core of a successful stormwater management facility maintenance program.

Identify Costs and Allocate Resources

While routine maintenance costs can typically be predicted for an annual budget, some maintenance tasks will require infrequent but considerable expense. Non-routine expenses need to be identified, and a long-term fund allocation plan needs to be developed.

Involve the Community, if possible

Pollution treated by the stormwater management facility may be generated from surrounding yards, streets, and businesses. Implementing a pollution prevention program and educating neighbors on the purpose of the stormwater management facility is a cost-effective way to prolong its life and to protect water quality.

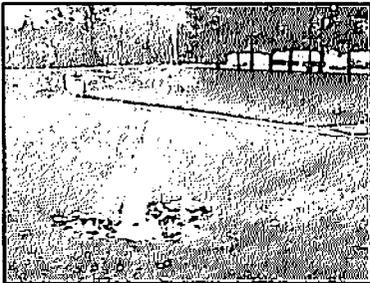
Establish a Record Keeping Procedure

Establishing a record keeping procedure will help to define chronic maintenance problems and aid in future budget preparation. A periodic examination of maintenance practices will assist in identifying persistent problems early.

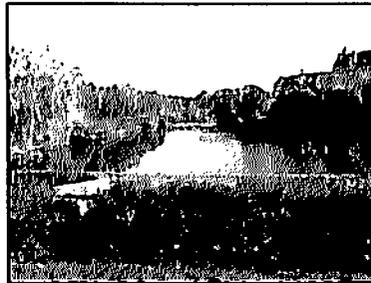
Identify Facilities and Maintenance Needs

There are many types of stormwater management facilities, which are introduced over pages 5 through 16. Taking a moment to understand what kind of stormwater management facility you have and how it works, will help you to better plan for its maintenance needs.

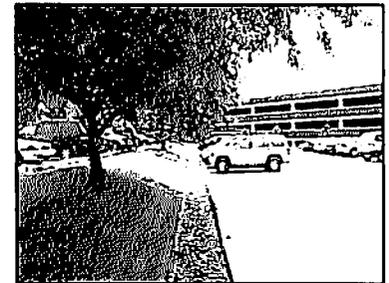
If you do not recognize any of these facilities, call your local government.



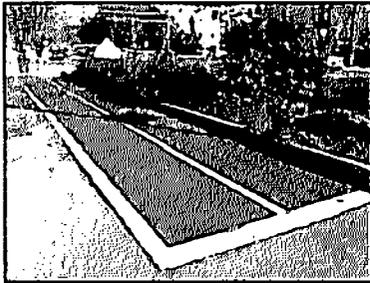
Dry Pond



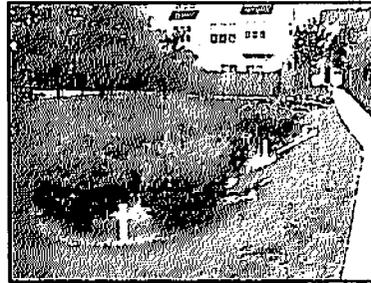
Wet Pond



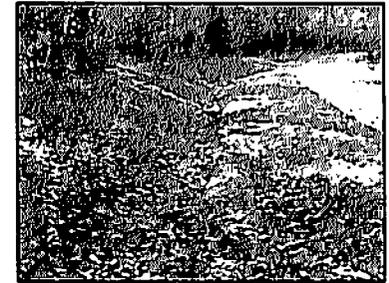
Infiltration Trench



Sand Filter



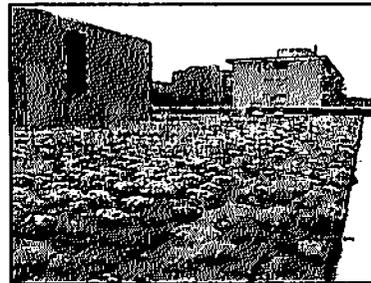
Bioretention Facility



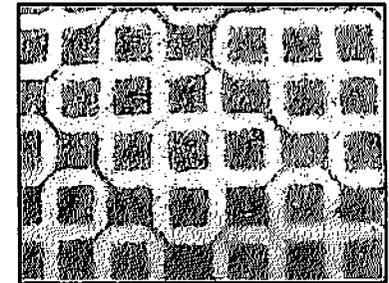
Vegetated Swale



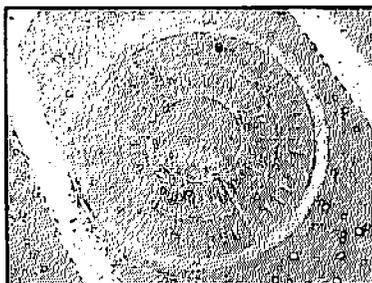
Underground Detention



Vegetated Rooftop



Permeable Paving Material



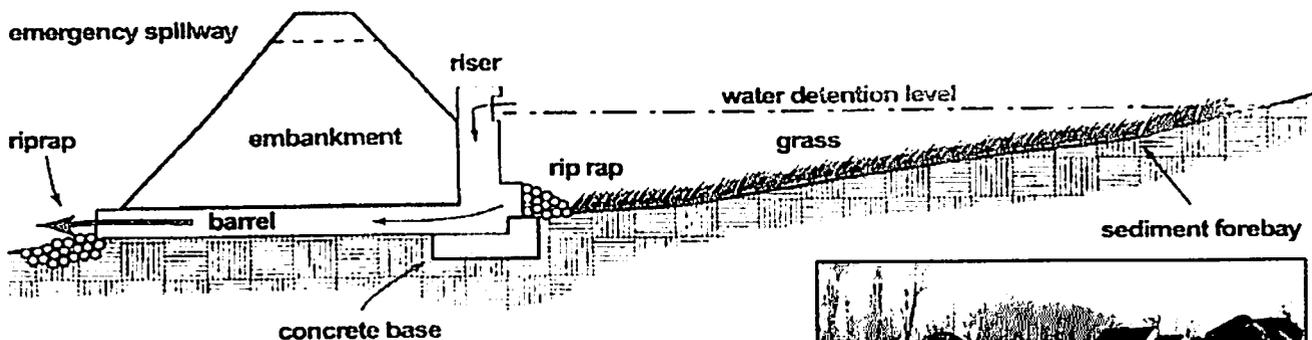
Manufactured BMP System



Non-Structural BMP

Extended Detention Basin - "Dry Pond"

Dry ponds retain water for a specified period of time (usually 48 hours) after a storm. Water is impounded temporarily to allow many of the pollutants time to settle to the bottom. The impounded water is discharged through an outlet that provides for prolonged release.

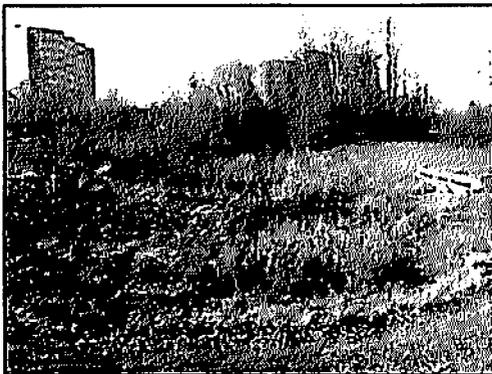


Dry ponds are the most common stormwater management facilities in Northern Virginia. Most do not contain a permanent pool of water and no water should remain if it is functioning properly.

Consult a local government representative to determine whether standing water is by design or a sign that maintenance is required.



Dry ponds are commonly found in residential and commercial areas throughout Northern Virginia.



Extended detention wetland basins, or two-stage detention ponds, incorporate a shallow marsh or wetland to increase pollutant removal.

MAINTENANCE IS REQUIRED WHEN:

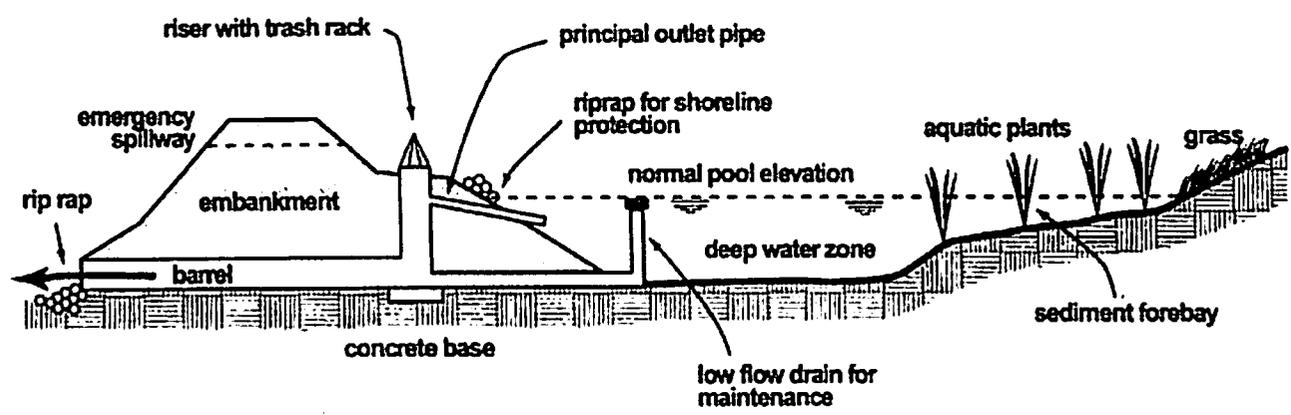
- Standing water is visible in inappropriate areas 72 hours after a rain event.
- Insects and/or odor become problems.
- Wetland vegetation emerges (unless the facility is specifically designed with a marsh or wetland area).
- There is visible damage to the embankment (such as sinkholes) or to the mechanical components.
- Animal burrows or trees present on embankment or near riser.
- Low flow orifice, forebay, or concrete trickle ditches blocked by trash, debris, or sediment.



Retention Basin - "Wet Pond"

Wet ponds are designed to contain a permanent pool of water much like a lake. Stormwater runoff is temporarily stored above the permanent pool and released at a controlled rate. The release is regulated by an outlet similar to that employed in a dry pond.

The advantages of a wet pond over a dry pond are higher pollutant removal and less chance that pollutants will be resuspended during a storm. However, wet ponds also pose a higher safety liability than other



MAINTENANCE IS REQUIRED WHEN:

- There are visible signs of sediment accumulation.
- Insects and/or odor become problems.
- Algae blooms occur in the summer months or the ponded areas become dominated by a single aquatic plant.
- There is visible damage to the embankment or to the mechanical components.
- There are visible seeps on the downstream dam face.
- Woody vegetation is growing on the dam.
- Beavers are present in the plunge pool.

NOTE: If your wet pond is protected by perimeter fencing, periodic inspections of its integrity should be conducted.

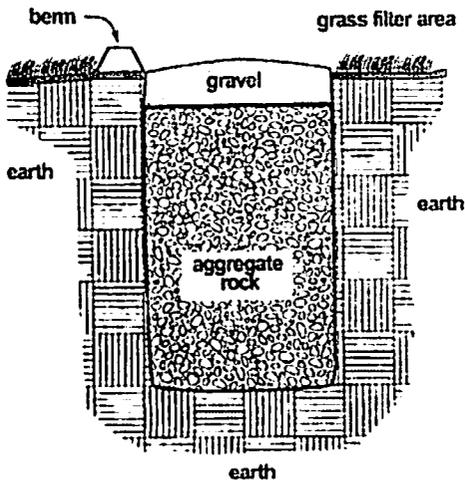


Wet ponds and their surrounding vegetated buffers may also serve as an aesthetic or recreational amenity, as well as habitat for some wildlife.



Infiltration Trench

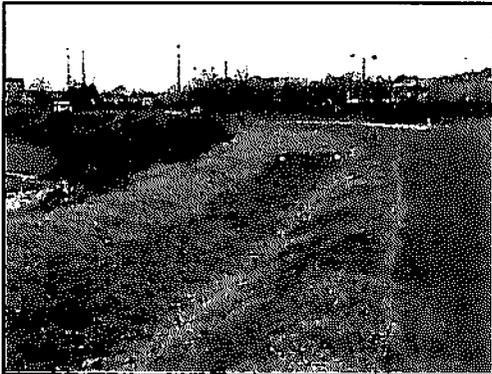
Infiltration trenches are gravel-filled excavations that temporarily store stormwater and allow it to sink into the underlying soil.



Infiltration trenches are classified in two ways:

In dispersed input facilities, runoff from impervious surfaces is directed over a gently sloping grass area before it reaches the facility, to remove large particles that otherwise might cause clogging.

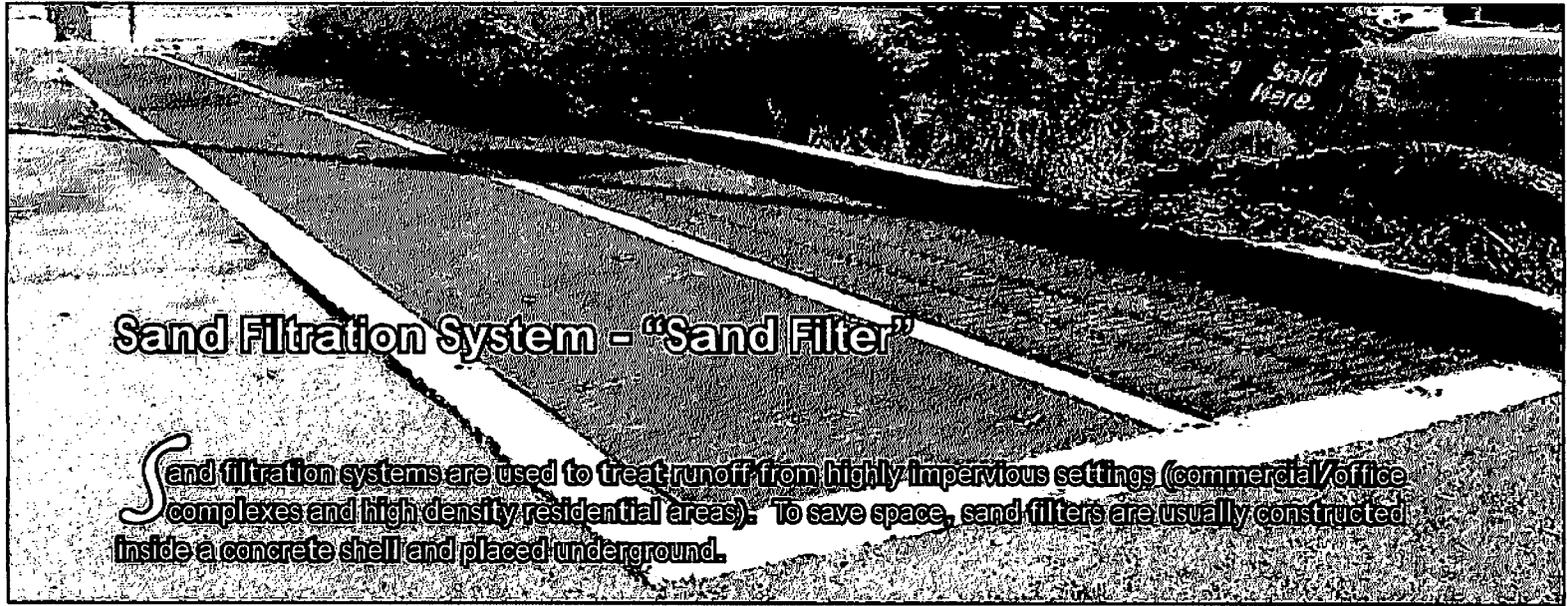
In concentrated input facilities, runoff is transferred to the trench directly from curb inlets, gutters, and pipes.



The purpose of an infiltration trench is to retain water.

MAINTENANCE IS REQUIRED WHEN:

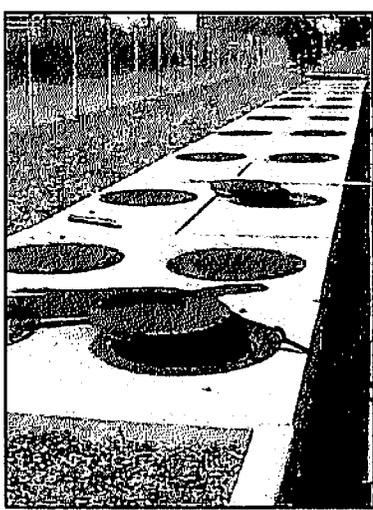
- Standing water is visible in the observation well 48 hours after a rain event.
- Insects and/or odor become problems.
- Wetland vegetation emerges.
- There is visible damage to the embankment (such as sinkholes) or to the mechanical components.
- Trash, leaves, and other debris are visible on the gravel surface.
- Runoff flows across, rather than into, the facility.



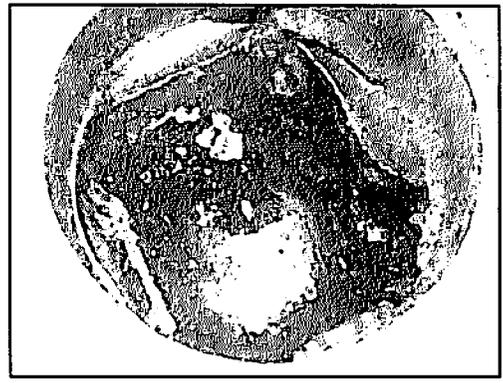
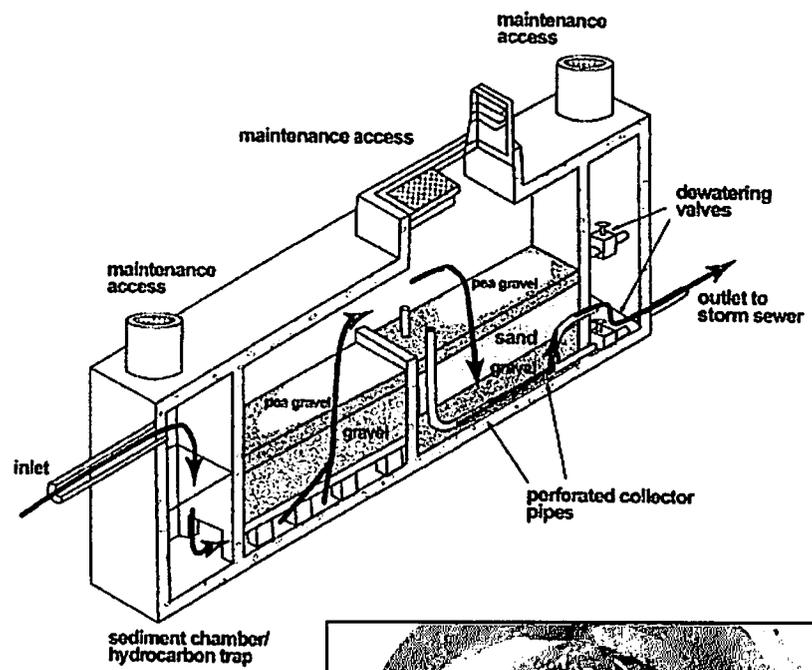
Sand Filtration System - "Sand Filter"

Sand filtration systems are used to treat runoff from highly impervious settings (commercial/office complexes and high density residential areas). To save space, sand filters are usually constructed inside a concrete shell and placed underground.

Sand filters consist of a series of chambers that remove heavy sediment, floatable debris, and oil, before slowly filtering stormwater through a layer of sand (and sometimes a sand/peat mix) where additional pollutants are removed when they become trapped between sand particles and other filter media. In some filters, microbes help remove metal and nutrient pollutants through biochemical conversion.



From the surface, some sand filters look like a series of manholes.



Sand filters are commonly used in areas where stormwater runoff has a high concentration of oil and grease.

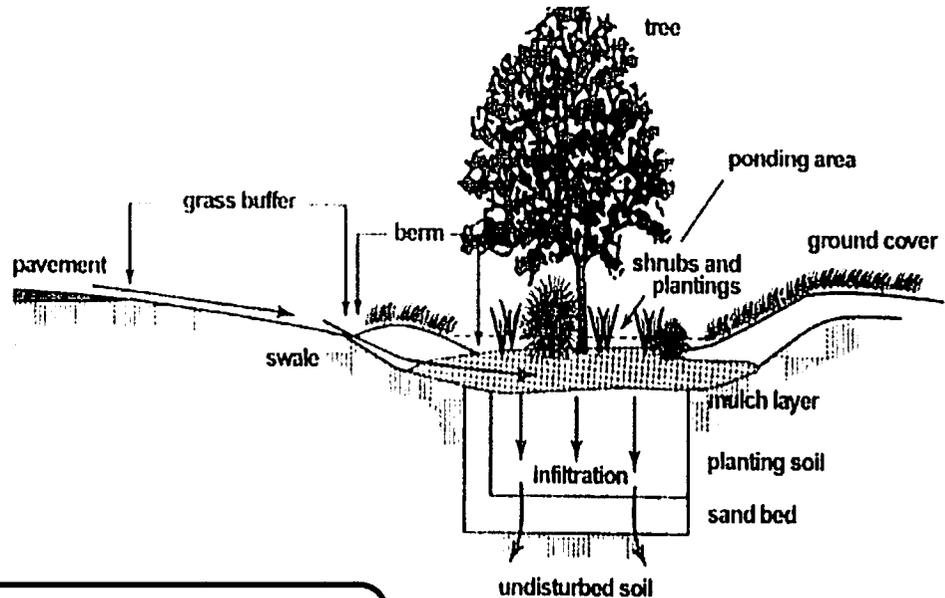
- MAINTENANCE IS REQUIRED WHEN:**
- The facility has reached its capacity for sediment accumulation, see the device's owners manual for specific amounts.
 - Standing water is noticeable in the sediment and/or filter chambers.
 - Excessive amounts of oil and trash are visible in the sediment chamber.
 - Regular maintenance time interval has passed.

Bioretention Facility = "Rain Garden"

Bioretention facilities, or "rain gardens" are vegetated basins designed to mimic the conditions found in a mature forest floor. Configured to act as a sink and underlain with specific layers of soil, sand, and organic mulch, runoff is trapped and treated by vegetation and microbes.

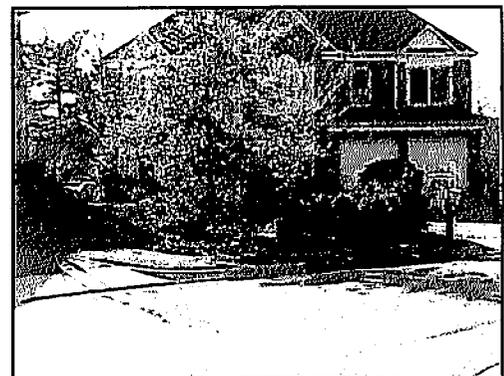
The facility is planted with specific types of vegetation that can withstand both wet and dry weather extremes. Reference information for the *Plants for Bioretention Basins* list prepared by Fairfax County, may be found in the *Stormwater Resources Guide* on page 34.

In areas where the local soils do not support infiltration, a bioretention facility may be underlain with layers of sand or gravel and an underdrain that carries treated water to the storm drain network.



MAINTENANCE IS REQUIRED WHEN:

- Standing water is visible in the basin 72 hours after a rain event.
- Insects and/or odor become problems.
- Vegetation is wilting, discolored, or dying.
- Erosion is visible within the basin, on the berms, or on the slopes.
- Settling has occurred along the berm, if present.
- The overflow riser or grate is covered by debris.



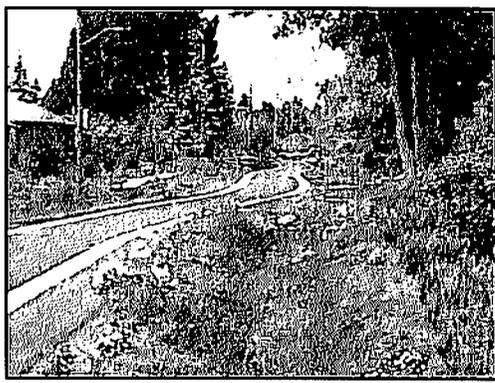
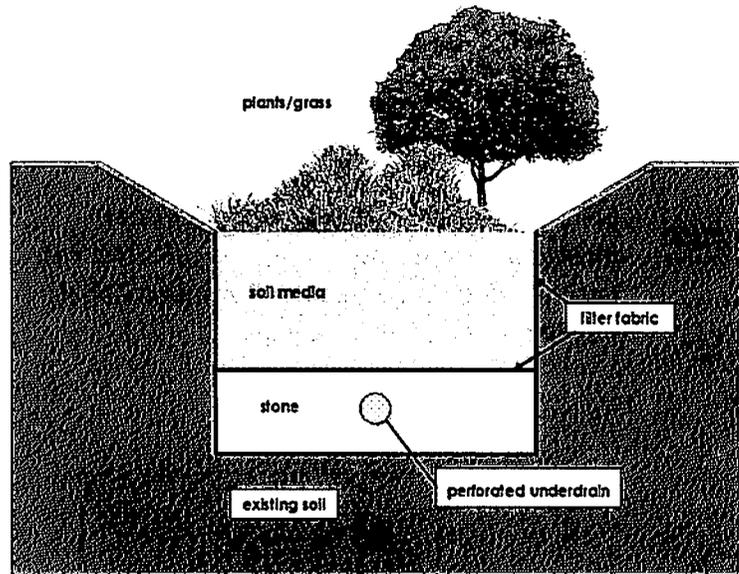
Bioretention facilities intercept stormwater runoff and use plants and soil layers to remove pollutants.



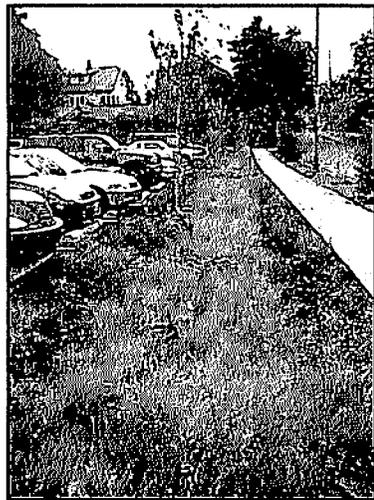
Vegetated Swale

Vegetated swales may be seen along many of Virginia's roadways, although they are not always designed to treat stormwater.

Typically, vegetated swales are concave, earthen conveyance systems designed to simply transfer runoff. Today they are constructed to serve a water quality purpose, trapping particulate matter in the vegetative groundcover and allowing stormwater to soak into the soil.



Vegetated swales serve a water quality purpose by trapping particulate matter in the vegetative groundcover.



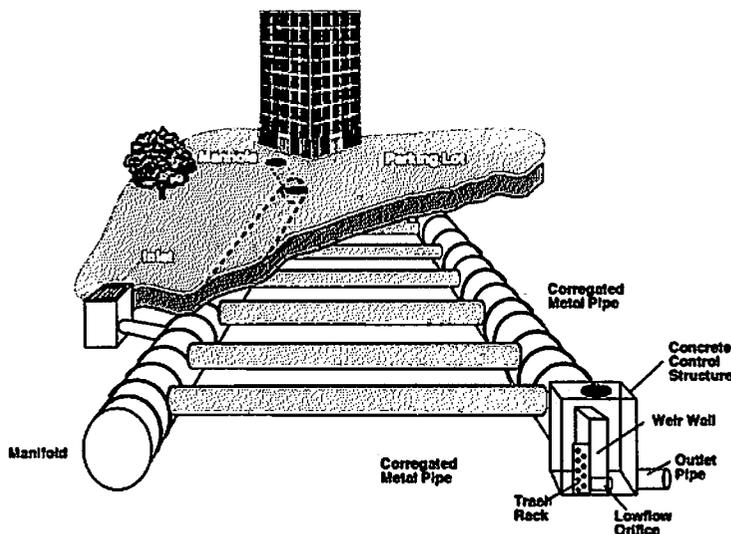
Vegetated swales are often located along roadways, parking lots, and other impervious areas.

- MAINTENANCE IS REQUIRED WHEN:**
- Vegetation is bare in spots or appears unstable.
 - Significant sediment has accumulated behind check dams*, if present.
 - Erosion is visible in the bottom of the swale.
 - Trash, grass clippings, leafy, and/or woody debris have accumulated.
 - Standing water is visible after 48 hours.
- *check dams are small berms built across a facility to slow water and create small areas of ponding.



Underground Detention

Underground detention consists of large underground pipes that provide storage and water quantity control through detention and/or extended detention of stormwater runoff.



Underground detention is often used in space-limited areas, such as parking lots, roadways, and paved areas in commercial, industrial, or residential developments, where adequate land for a surface BMP facility is not available.

Subsurface detention facilities are commonly associated with other manufactured pretreatment facilities to improve water quality before the stormwater is released into natural waters. For more information about manufactured BMPs, see page 17.

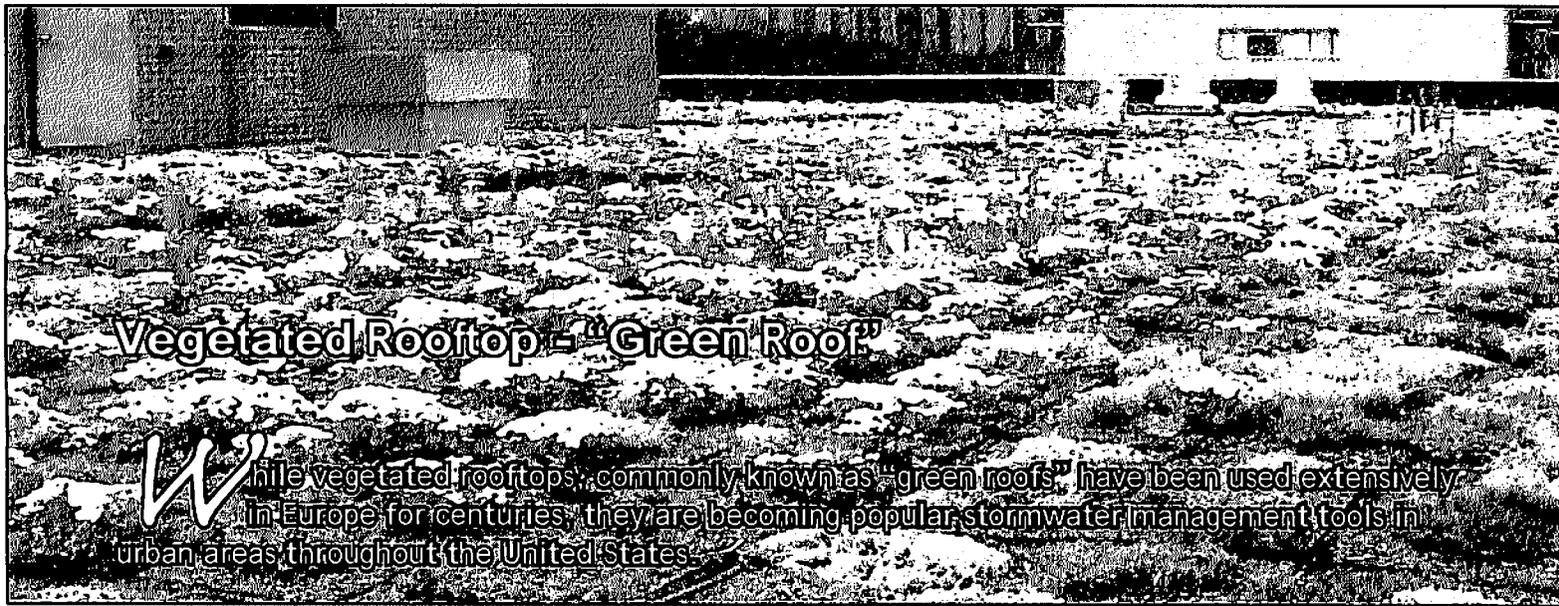
MAINTENANCE IS REQUIRED WHEN:

- Significant amounts of trash and/or sediment has accumulated in the vaults or tanks.
- There is visible damage to the inlets or outlets.



Trash and sediment can quickly accumulate in underground detention facilities, requiring frequent clean outs, by professionals.

NOTE: Since underground detention systems are enclosed subsurface structures, they are considered confined spaces and have specific safety requirements by the Occupational Safety and Health Administration (OSHA) that should be heeded when inspecting or maintaining your system.

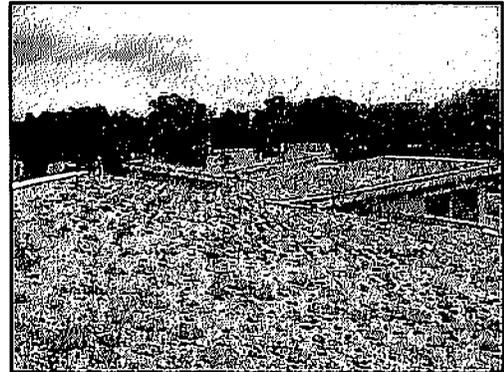


Vegetated Rooftop - "Green Roof"

While vegetated rooftops, commonly known as "green roofs," have been used extensively in Europe for centuries, they are becoming popular stormwater management tools in urban areas throughout the United States.

Green roofs intercept stormwater and slow its flow off of rooftops. In addition to reducing the amount of stormwater runoff and improving its quality, green roofs also reduce the effect of city "heat islands" and provide micro-habitats for birds and insects.

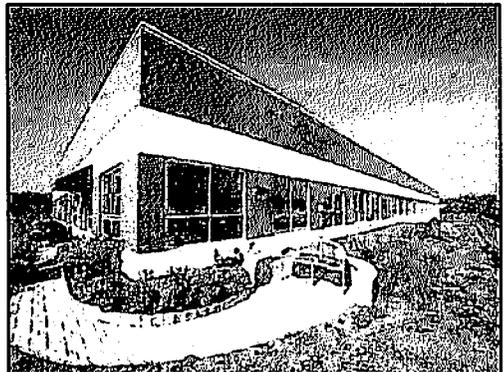
Green roofs are classified as extensive or intensive, based on the depth of the growing medium and the types of vegetation and amenities in the design.



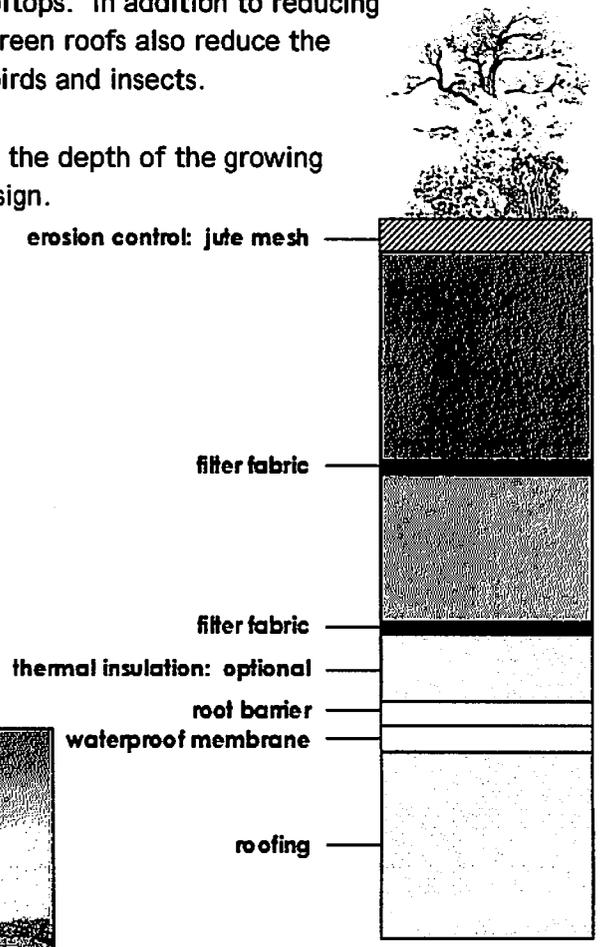
Extensive green roofs employ succulent low-growing plant species, such as sedums.

MAINTENANCE IS REQUIRED WHEN:

- Leaks occur.
- Unwanted vegetation appears
- Vegetation shows signs of stress.



Intensive green roofs, applied on sturdier roofing systems, can accommodate paths, perennial plants, and other amenities.

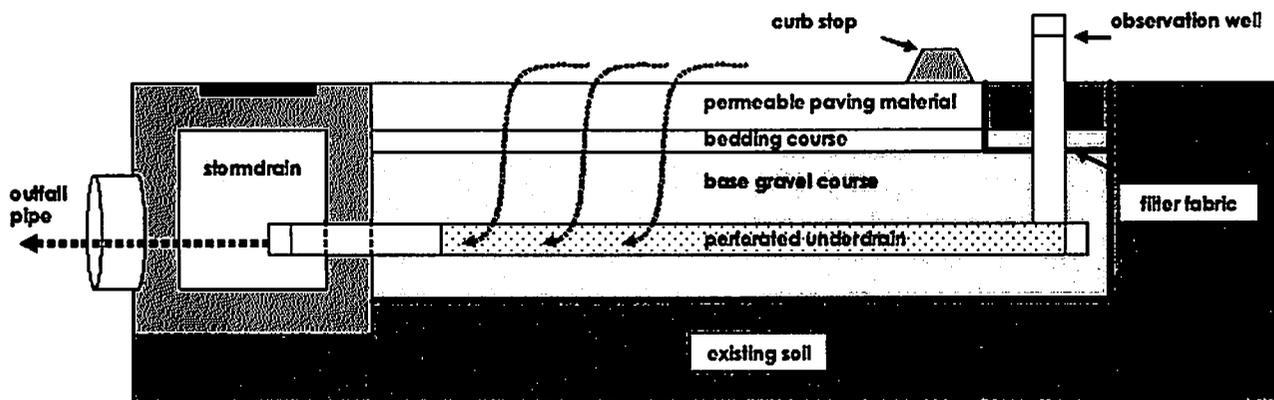


NOTE: A detailed structural analysis of the existing building is required to ensure it can adequately support the weight of a vegetated rooftop, before one can be constructed.

Permeable Paving Material

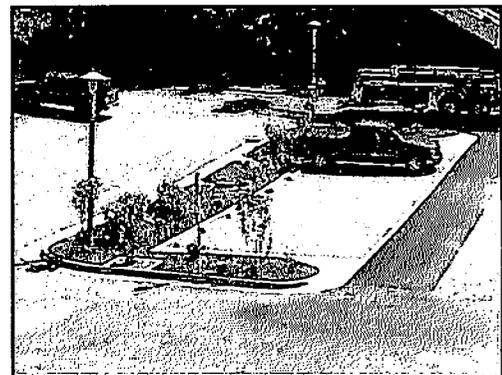
Permeable paving materials consist of bricks, gravel, or other permeable materials that provide structure and stability yet allow water to infiltrate through to the ground's surface. They can be used in place of traditional asphalt in parking areas, sidewalks, and low traffic vehicular corridors.

Permeable paving materials appear in a variety of different forms. Brick pavers are commonly used in parking lots and other areas that may receive frequent use. Whereas paving systems that are cellular in nature and allow for vegetation to grow through them are commonly used in place of traditional concrete or asphalt, in low traffic areas.



MAINTENANCE IS REQUIRED WHEN:

- Puddling or ponding water is visible on the surface 48 hours after a rain event.
- Significant amounts of sediment have accumulated between the pavers.



Permeable paving materials are often used along streets, driveways, parking lots, sidewalks, paths, and other low traffic volume areas.

Manufactured BMP System

From the ground's surface, most manufactured BMPs look like inconspicuous manholes. However underneath is a single or series of vaults and chambers designed to remove common stormwater pollutants, such as sediment, oil, trash, and grit.

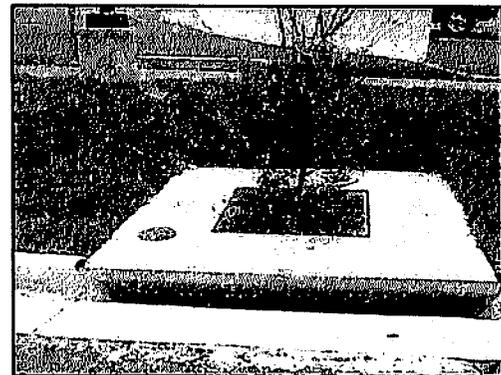
Manufactured BMP facilities use gravitational, hydrodynamic, absorption, biochemical, and/or filter techniques to remove pollutants.

They are regularly used in urban and ultra-urban areas for water quality enhancement, where space for large facilities, such as wet ponds, is not available. Since they are often the same size as a typical stormwater inlet, manufactured BMPs are a common retrofit option.



Manufactured BMPs are used solely for water quality enhancement in areas where space for surface BMPs is not available.

*left: Stormceptor™
right: Filterra™*



Examples of Manufactured BMP Systems:

- Aqua-Swirl™
- BaySaver™
- Downstream Defender™
- Filtrex SiltSoxx™
- Stormceptor™
- StormFilter™
- Vortechs™

MAINTENANCE IS REQUIRED WHEN:

- Sediment accumulation in the sediment chamber is over the manufacturer's recommended depth.
- Floating oil layer has reached an appreciable volume.
- Obstructions from trash or debris are visible in the inlet or outlet (vent).

NOTE: Consult the BMP's manufacturer or the operations manual.

For a comprehensive list and comparison of manufactured BMPs, visit:
www.epa.gov/region01/assistance/ceitts/stormwater/techs.html



Non-Structural Best Management Practices

Non-structural BMPs do not have a physical structure and are designed to eliminate or limit the amount of pollutants entering the stormwater system from the surrounding environment.

Non-structural BMPs involve educational efforts, management strategies, and planning alternatives and are often associated with the way land is used and managed. Limiting the frequency of fertilizer applications and reaching out to the community about how to reduce their contributions to stormwater pollution are just two examples that may be considered as non-structural BMPs.

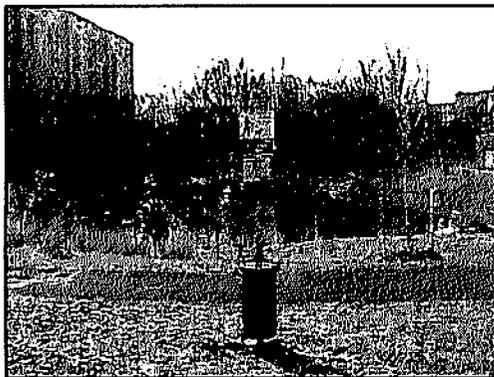
Implementing these practices can have a long-lasting effect on the health of the local environment and can significantly reduce maintenance costs for structural BMPs.

Examples of Non-Structural BMPs

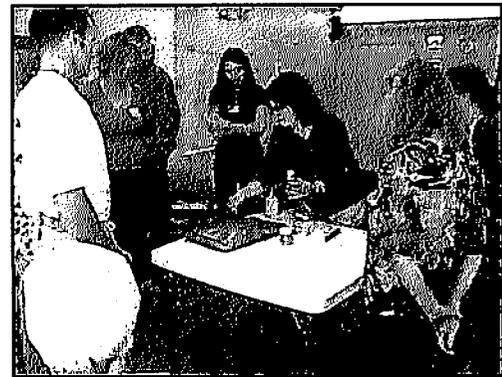
- Trash Pick-Ups
- Storm Drain Marking
- Educational or Informative Articles
- Biological Stream Monitoring
- Tree Plantings
- Street Sweeping
- Lawn and Garden Management Workshops
- Invasive Plant Removals
- Carwashing Stations



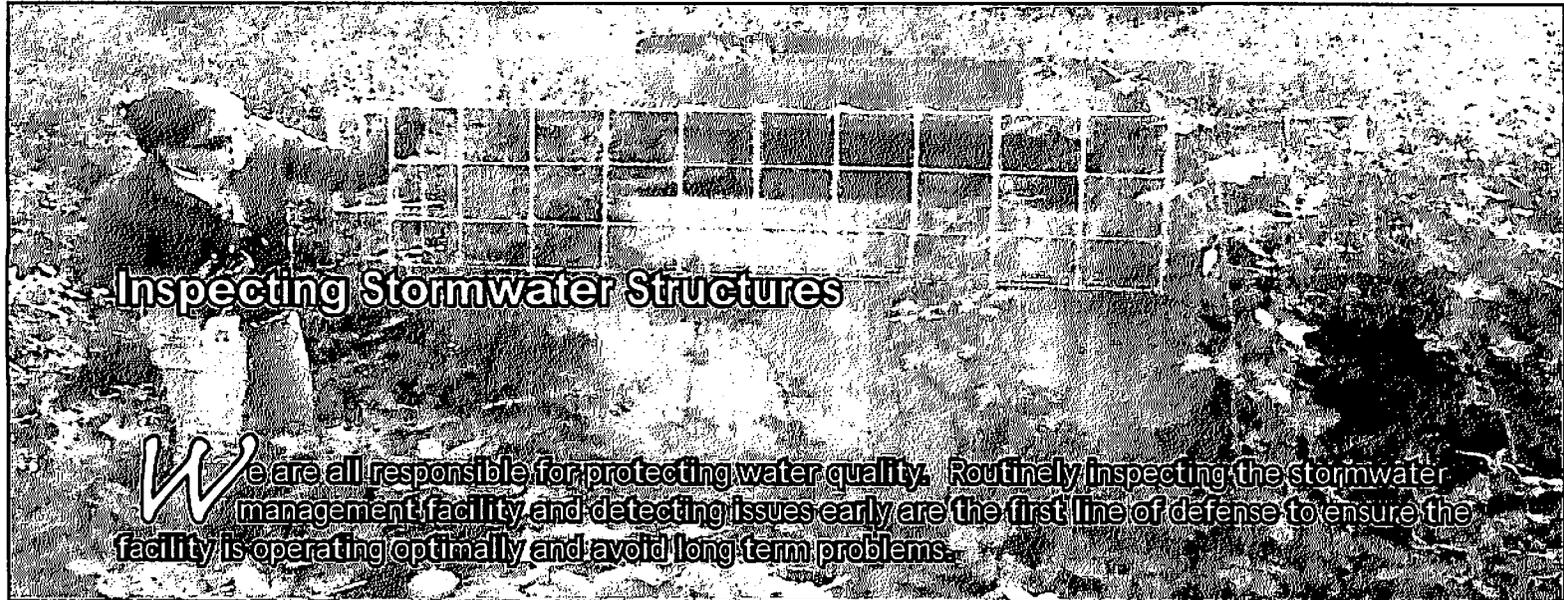
Conduct tours of gardens that are not only aesthetically pleasing, but also improve the local environment and water quality.



Erect disposal stations, with bags and a trash can, encourages the proper disposal of dog waste and reduces the amount of bacteria entering nearby waterways.



Host workshops on proper lawn care and gardening techniques to help reduce the amount of fertilizer and excess nutrients from entering the stormwater facility.



Inspecting Stormwater Structures

We are all responsible for protecting water quality. Routinely inspecting the stormwater management facility and detecting issues early are the first line of defense to ensure the facility is operating optimally and avoid long-term problems.

Who is Responsible for Inspections and Maintenance?

Many Northern Virginia local governments will maintain stormwater management facilities in residential areas under specific conditions. However, if a community or business is subject to a **BMP** maintenance agreement, that community or business is responsible for the maintenance of their **BMP**.

It is important to check the maintenance agreement to identify specific legal obligations. In the event that the maintenance agreement is unable to be located, consult a local government contact to determine who is responsible for conducting inspections and/or maintenance. Ask local government staff about the conditions of this agreement. Contacts can be found in the *Stormwater Resource Guide* on page 34.

STORM WATER DETENTION AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 19____, by and between

_____ (hereinafter called the "Landowner") and the Board of Supervisors of Fairfax County, Virginia (hereinafter called the "County");

WITNESSETH, that

WHEREAS, the Landowner is the owner of certain real property, more particularly described as _____

as recorded by deed in the land records of Fairfax County, Virginia, in Deed Book _____ at Page _____ (hereinafter called the "Property"); and

WHEREAS, the Landowner is proceeding to build on and develop the property; and

Developing an Inspection Strategy

Depending on the specific stormwater facility, inspection requirements vary from jurisdiction to jurisdiction.

Some sand filtration systems require monthly or seasonal inspections while other **BMPs** can be inspected on an annual basis. Some localities conduct inspections of all facilities, while others require that the responsible party arrange for an inspection and send the results to the jurisdiction inspection manager for confirmation. **The local government should be contacted to determine specific requirements and for assistance in selecting a qualified inspector.**

It is unlikely that a lawn care or landscaping company has the knowledge or experience to perform a proper, comprehensive **BMP inspection. A professional (engineer, landscape architect, surveyor, etc.), or someone who has had appropriate training, should be hired to perform inspections. Since there is no "**BMP** inspection" listing in the telephone book, call a local government for advice on hiring a skilled professional.**

A maintenance agreement legally binds the facility owner and/or responsible party with performing maintenance on the **BMP**.

Sample Self Inspection Checklist

STRUCTURAL INTEGRITY

Yes No N/A

Does the facility show signs of settling, cracking, bulging, misalignment, or other structural deterioration?

Yes No N/A

Do embankments, emergency spillways, side slopes, or inlet/outlet structures show signs of excessive erosion or slumping?

Yes No N/A

Is the outlet pipe damaged or otherwise not functioning properly?

Yes No N/A

Do impoundment and inlet areas show erosion, low spots, or lack of stabilization?

Yes No N/A

Are trees or saplings present on the embankment?

Yes No N/A

Are animal burrows present?

Yes No N/A

Are contributing areas unstabilized with evidence of erosion?

Yes No N/A

Do grassed areas require mowing and/or are clippings building up?

WORKING CONDITIONS

Yes No N/A

Does the depth of sediment or other factors suggest a loss of storage volume?

Yes No N/A

Is there standing water in inappropriate areas, such as on filters or cartridges after a dry period?

Yes No N/A

Is there an accumulation of floating debris and/or trash?

OTHER INSPECTION ITEMS

Yes No N/A

Is there evidence of encroachments or improper use of impounded areas?

Yes No N/A

Are there signs of vandalism?

Yes No N/A

Do the fence, gate, lock, or other safety devices need repair?

Yes No N/A

Is there excessive algae growth, or has one type of vegetation taken over the facility?

Yes No N/A

Is there evidence of oil, grease, or other automotive fluids entering and clogging the facility?

Yes No N/A

In rain gardens, is there evidence of soil erosion, does mulch cover the entire area, are specified number and types of plants still in place, or is there evidence of disease or plant stress from inadequate or too much watering?

OTHER OBSERVATIONS

A yes answer to any of these items should result in corrective action or a call to a professional inspector.

NOTE: The intent of the checklist is to provide a general sense of the areas of concern and issues that should be considered when inspecting a stormwater facility. A local government contact may provide a more comprehensive checklist for a specific type of facility.



Planning for BMP Maintenance Costs

Routine maintenance costs can usually be predicted for an annual budget and may range from four percent of original capital construction costs per year for a dry pond to nine percent of original capital costs per year for an infiltration trench.

A general rule of thumb is that annual maintenance costs may run from \$100 per acre for minor maintenance, such as mowing, to \$500 per acre for more intensive maintenance including weed control, debris removal, etc.

Non-routine maintenance costs, however, can be substantial over the long run, especially when considering the possibility of eventual BMP replacement. To lessen the immediate financial impact of non-routine costs, it is advised that a BMP maintenance fund, with annual contributions, be established.

As an example, for dry ponds, which need to have sediment removed once every two to ten years, ten to 50 percent of anticipated dredging costs should be collected annually. In addition, the average dry pond has a life expectancy of 20 to 50 years. A separate fund that collects two to five percent a year should be established for replacement. Anticipated interest may be used to offset the effects of inflation.

Estimating and Planning for Non-routine Costs for BMPs

Costs for non-routine maintenance of BMPs are highly specific and will vary depending upon:

- the type, size, and depth of the facility;
- the volume of the sediment trapped in the BMP;
- the accessibility of the BMP; and
- whether or not on-site disposal of the sediment is possible.

Type of BMP	Sediment Removal Frequency	Facility Life Span*
Wet Pond	5 to 15 years	20 to 50 years
Dry Pond	2 to 10 years	20 to 50 years
Infiltration Trench	Monthly or as needed	10 years
Sand Filter	Every 6 months or as required	20 to 50 years
Bioretention System	5 to 10 years	10 to 25 years
Vegetated Swale	As needed	10 to 25 years
Underground Detention	Annually or as needed	10 to 30 years
Vegetated Rooftop	Every 5 years	25 years
Permeable Paving Materials	3 to 4 times per year	25 years
Manufactured BMP	Annually or as required	20 to 100 years

*Assumes the facility is maintained on a regular basis.

Planning for BMP Maintenance Costs

Wet and Dry Pond Sediment Removal

The technique used to remove sediment from a wet or dry pond is very site-specific. The information below provides an estimate of costs associated with the dredging process.

- Mobilization and Demobilization of Machinery

Associated Costs: \$1,000 to \$10,000

Large wet ponds or regional facilities will often require a waterborne operation during which an excavator or a crane must be mounted to a floating barge and moved into position. For smaller ponds, larger ponds that can be drained or dredged from the shore, and extended detention basins, a perimeter or dry operation will usually suffice. In this case, a backhoe, truck equipment, or crane may be used to scoop out the sediment. Additional costs for the construction and restoration of access roads for trucks and heavy equipment may be accrued.

- Dredging

Associated Costs: \$10 per cubic yard to \$20 per cubic yard

The cost of dredging a BMP depends on the volume of sediment removed. The cost (expressed by cubic yard) is largely influenced by the depth of the water and the distance between the excavation area and the "staging area" where sediment is transferred to trucks for removal. Another consideration is whether equipment can easily access the BMP bottom. The following equation can be used to estimate the volume of sediment in cubic yards.

Equation to Estimate the Volume of Sediment in a BMP (in cubic yards)

$$\begin{aligned} \text{surface area} \text{ ______ (acres) } \times \text{depth of sediment} \text{ ______ (feet) } \times 43,560 &= \text{ ______ cubic feet} \\ \text{cubic feet} \text{ ______ } / 27 &= \text{ ______ cubic yards} \end{aligned}$$

- Disposal

Associated Costs: \$5 per cubic yard - on-site to \$47 per cubic yard - off-site

The primary determinant of disposal costs is whether on-site disposal is an option. If on-site disposal is not available, then locating a landfill or large area to apply the spoils, such as a farm may prove challenging and transportation costs may increase considerably. Dredged materials will require special disposal if found to contain hazardous materials.

Additional costs that vary per jurisdiction, should be considered for permitting fees, grading plans, and erosion and sediment controls.

Adding the likely costs of the sediment removal components establishes a range in which an owner can expect to pay for sediment/pollutant removal. For a facility with a small surface area (0.25 acres) overall costs can range from \$4,000 to \$10,000+. For a large facility (10 acres) overall costs can range from \$170,000 to \$550,000+.

Planning for BMP Maintenance Costs

	Maintenance	Annual Associated Cost
Vegetated Facilities		
Bioretention Facility	Removal of sediments and replacement of some level of soil is required periodically. Mulch should be replaced annually, or as needed.	Between \$1,500 and \$2,000, depending upon the size and complexity of the facility.
Vegetated Rooftop	Repair leaks, as necessary. Replenish soil and plants, annually. If drought is a concern, installing an irrigation system or supplemental watering will be necessary.	Between \$500 and \$7000, depending upon the size of the facility and the amount of soil/planting area that needs to be replenished.
Vegetated Swale	Remove sediments, replace check dams (usually made of earth, riprap, or wood), reseed or sod (if grassed) or replace dead plants, every two years.	If located on a highway right-of-way, maintenance may be covered through state maintenance. Call the Virginia Department of Transportation at 703-383-VDOT to find out if the swale is on state property.
Infiltration Facilities		
Infiltration Trench	Remove the top six to 12 inches of gravel and to replace the filter cloth sediment barrier.	Between \$1,500 and \$2,000, depending on the size of the facility.
Permeable Paving Material	Vacuum sediments from surface, twice a year.	Between \$500 and \$1,000, depending on the size of the facility.
Underground Facilities		
Sand Filter	Remove the top filter cloth and remove/replace the filter gravel, when a semi-annual inspection reveals that it is necessary. Pump and refill the carbon trap every six months. Remove and replace the filter cloth and gravel every three to five years.	Between \$3,000 to \$10,000, depending on the type and size of the sand filter and the amount of impervious surface draining to it.
Underground Detention	Vacuum accumulated sediment and debris, twice a year.	Between \$1,000 and \$1,500 depending on the size and complexity of the facility.
Manufactured BMP	Vacuum accumulated sediment, oil, and debris, every six months, or as required.	\$500+, depending on the type, size, and location of the facility and the amount of sediment, oil, and debris that has accumulated.

If an oil sheen is present in the facility, it should be removed by a qualified oil recycler, which increases costs. Other expenses, such as removal of trash and hydrocarbons from water traps may also be required.

The owner should consult a local government representative to determine an appropriate funding level.



Removing sediment from stormwater facilities can be a considerable expense. Look for opportunities to reduce the amount of sediment entering the pond from the surrounding drainage area.

Maintaining Stormwater Structures

A consistent maintenance program is the best way to ensure that a stormwater structure will continue to perform its water quality functions. Actual maintenance needs will obviously vary according to the specific facility and site conditions.

Factors Affecting the Type and Frequency of Maintenance Required

Visibility of the Facility/Aesthetics

The needs and preferences of the surrounding community will determine to a large extent the amount of maintenance required for aesthetic purposes.

Landscaping

Maintenance needs will vary considerably depending upon the types of vegetation used in landscaping. Rain gardens, dry ponds, and vegetated rooftops in particular will require special attention to vegetation management.

Upstream Conditions

The condition of the surrounding watershed will significantly impact the amount of sediment and other pollutants the facility must manage. For example, erosion problems and high traffic areas upstream can dramatically increase the amount of sediment accumulation.

Safety

Since BMPs often involve the storage or impoundment of water, the safety of nearby residents or customers must be considered. This includes maintaining appropriate fencing and signs. Confined space training is required before entering underground facilities.

Need for Professional Judgement

BMPs are water treatment facilities. While some maintenance can be conducted by a non-professional, the advice of a professional should be consulted regularly.

Financing

The costs associated with non-routine BMP maintenance tasks can be considerable. A fund should be established to provide for the costs of long-term maintenance needs such as sediment removal.



Signs increase awareness of stormwater and explain the benefits of the BMP.

Maintaining Stormwater Structures

Routine maintenance will keep a BMP functioning properly and will pay off in the long run by preventing unnecessary repairs. Preventing pollutants from reaching the BMP will result in lower maintenance costs and cleaner water.

Common Routine Maintenance Needs for Most BMPs

Regular Inspections	Vegetation Management	Embankment & Outlet Stabilization	Debris & Litter Control	Mechanical Components Maintenance
Insect Control	Access Maintenance	Overall Pond Maintenance	Sediment/ Pollutant Removal	Components Replacement

Regular Inspections

Local governments require a specific schedule of inspections for a BMP. In many instances, an annual or semi-annual inspection, depending on the facility, is required. It will also be necessary to conduct an inspection after a large storm event during which the BMP's capacity was surpassed.

Some BMPs, such as sand filters, may require more frequent inspections. Additional information on who needs to carry out inspections is provided under *Inspecting Stormwater Structures* on page 17.

Vegetation Management

Most BMPs rely on vegetation to filter sediment from stormwater before it reaches the BMP. Vegetation also serves to prevent erosion of the banks and stabilize the bottom of the facility. While turf grass is the most common groundcover, many BMPs are being retrofitted or designed with woody vegetation and wetland plants to increase pollutant removal.

- **Mowing.** Most grass is hardiest if it is maintained as an upland meadow, therefore mow no shorter than six to eight inches. Grass on embankments should be cut at least twice during the growing seasons and once during the summer.
- **Pest and Weed Control.** To reduce the amount of pollutants reaching the BMP, avoid overfertilization and excessive pesticide use.
- **Removing Sediment Build-Up.** Since the vegetation surrounding the BMP is designed to trap sediment, it is likely to become laden with sediment.

- **Stabilize Eroded Areas or Bare Spots.** Bare spots should be vigorously raked, backfilled if needed, covered with top soil, and seeded.
- **Unwanted Vegetation.** Some vegetation is destructive to a BMP. Keeping dams and bottom areas free of deep-rooted vegetation is critical as roots may destabilize the structure. Consistent mowing and monitoring will control any unwanted vegetation.
- **No Mow Zones.** For wet ponds, a ten foot vegetated buffer, around the perimeter of the facility (exclusive of the dam embankment) may be established to filter pollutants from adjacent properties and to help prevent shoreline erosion.

Embankment and Outlet Stabilization

A stable embankment is important to ensure that erosion does not contribute to water quality problems and that embankments are not breached - resulting in downstream flooding. Maintaining a healthy vegetative cover and preventing the growth of deep-rooted (woody) vegetation on embankment areas is an important component to stabilization.

Animal burrows will also deteriorate the structural integrity of an embankment. Muskrats and groundhogs in particular will burrow tunnels up to six inches in diameter. Efforts should be made to control excessive animal burrowing and existing burrows should be filled as soon as possible. Outlet structures are particularly prone to undercutting and erosion. Unchecked, a small problem can easily result in the need to replace the entire structure. A professional engineer should be consulted if

Maintaining Stormwater Structures

sink holes, cracking, wet areas around the outlet pipe, displacement, or rusting of the pipe are observed.

Debris and Litter Control

Regular removal of debris and litter can be expected to help in the following areas:

- reduce the chance of clogging outlet structures and trash racks;
- prevent damage to vegetated structures;
- reduce mosquito breeding habitats;
- maintain facility appearance; and,
- reduce conditions for excessive algal growth.

Special attention should be given to the removal of floating debris which can clog inlets, outlets, and low-flow orifices. If trash or dumping is particularly problematic, outreach to the local community can help (see *Involving the Whole Community*, page 27).

Mechanical Components Maintenance

Some BMPs have mechanical components that need periodic attention - valves, sluice gates, pumps, **anti-vortex devices**, fence gates, locks, and access hatches should be functional at all times. This type of routine maintenance is best left to a professional.

Insect Control

A healthy ecosystem actually promotes biological controls of mosquitoes. However, mosquito and other insect breeding grounds can be created by standing water. Though perceived as a significant nuisance, mosquitoes are not as big a problem as is often thought, and there are ways to address the issue.

The best technique is to ensure that stagnant pools of water do not develop. For BMPs that have a permanent pool of water, this means the prompt removal of floatable debris. It may also be possible in larger wet ponds to stock fish that feed on mosquito larvae. The Department of Game and Inland Fisheries can provide additional information on this management option (see *BMP Resource Guide*, page 34).

The development of a mosquito problem, particularly in dry ponds, infiltration trenches, and rain gardens, is usually an early indication that there is a maintenance problem, such as clogging. In such cases, the infiltration capacity of the BMP needs to be increased or sediment needs to be removed.

Access Maintenance

Most BMPs are designed so that heavy equipment can safely and easily reach the facility for non-routine maintenance. Routine maintenance of access areas is particularly important since one never knows when emergency access will be needed. Maintenance includes removal of woody vegetation, upkeep of gravel areas, fences, and locks.

Overall Pond Maintenance

An often overlooked aspect of maintenance, especially for wet ponds, is the need to ensure a healthy aquatic ecosystem. A healthy ecosystem should require little maintenance. An indicator of an unhealthy system is excessive algal growth or the proliferation of a single species of plant in the permanent pool of a wet pond. This may be caused by excess nutrients from fertilization practices (of a landscape company or surrounding neighbors), or by excess sediment.

Steps should be taken to reduce excess nutrients at their source and to encourage the growth of native aquatic and semi-aquatic vegetation in and around the permanent pool. The Department of Game and Inland Fisheries can provide additional information on overall pond maintenance practices (see *BMP Resource Guide*, page 34).

Maintaining Stormwater Structures

The non-routine maintenance of a BMP, while infrequent, can be a major undertaking and should always be performed by a professional. While tasks will vary by facility, they typically include sediment/pollutant removal and replacement of the facility's structural components.

Sediment/Pollutant Removal

Since the primary purpose of a BMP is to remove sediment and other pollutants (which are usually attached to sediment) from stormwater, sediment will accumulate in a BMP and need to be removed. Facilities vary dramatically so there are no universal "rules of thumb" to guide responsible parties in sediment removal requirements.

For instance, dry ponds should be cleared of sediment once a significant portion of the BMP volume (25-50 percent) has been filled. For wet ponds, a minimum water depth of approximately three feet is desirable.

Sediment and pollutants will need to be discarded. The best solution is to have an onsite area or a site adjacent to the facility (outside a floodplain) set aside for sediment. When sediment is stored near the facility, it is important to adhere to Virginia's Erosion and Sediment Control requirements for stabilization to protect the stockpile against erosion. If on-site disposal is not an option, transportation and landfill tipping fees can greatly increase sediment removal costs. Once the sediment is removed, the facility should be quickly restabilized, either through revegetation or, in the case of a sand filter, replacement of sand and other filter media.

Finally, wet sediment is more difficult and expensive to remove than dry sediment. In some cases, the entire facility can be drained and allowed to dry so that heavy equipment can remove sediment from the bottom. In other cases, it may be necessary to remove sediment from the shoreline or by hydraulic dredging from the surface. A permit may be required for removal and proper disposal of sediment. Contact your local government for assistance.

Stormwater Management Facility Component Replacement

Eventually, like most infrastructure, actual facility components will need to be replaced. Components may include:

- inflow and outflow pipes;
- trash racks and anti-vortex devices;
- valves, orifices, and aerators;
- concrete structures (such as the casing for a sand filter, or riser structures in ponds);
- pumps and switches;
- manhole covers and access hatches*;
- earthworks (such as embankments and side slopes); and,
- mulch and vegetation.

While most stormwater management facilities may last up to 100 years with proper maintenance, a community or business should plan long in advance for replacing these facilities.

**Many BMPs are located in parking lots. When the parking lot is repaved, ensure that the access areas are not covered.*

Who Should Carry Out Maintenance

In determining who should carry out maintenance activities, safety, cost, and effectiveness need to be balanced. Some activities can be undertaken effectively by a facility owner. Some examples of tasks that are appropriate for a facility owner may include landscaping and revegetating bare areas, education, and litter removal.

While engaging a community or business in routine maintenance is a great way to educate people about the facility's purpose, it is strongly recommended that a professional landscaping company be hired for more difficult work. Trained personnel may be able to identify problems in their early stages of development when it is most cost-effective to make repairs. Additionally, mowing and handling a wheelbarrow can be dangerous on sloping embankments. Filling eroded areas, and soil disturbing activities, such as resodding and replanting vegetation, are also tasks that a professional landscaping firm can manage.

Working with Lawn Care Companies

Communicate to a lawn care company that the stormwater management facility is a water treatment system that requires special attention. While most companies have the ability to perform special maintenance, many will not unless specifically asked.

Contact a company manager to discuss how their services can be tailored to help meet the stormwater management facility's maintenance objectives.

Tips for Working with Lawn Care Companies

COMMUNICATE that the facility is a water quality protection facility.

PROVIDE specific instructions on mowing and fertilization practices. For example, mowing at a higher level and perhaps not as frequently is preferred. Ask that heavy equipment be avoided where possible and particularly in vegetated areas.

INFORM land owners and landscape companies of the need to keep sediment from accumulating and the need to keep the facility clear of grass clippings.

REQUIRE that the company follows an integrated pest management (IPM) plan to minimize the application of pesticides and fertilizers.

An IPM plan can include the:

- use of pesticides only as needed and only on trouble spots;
- use of alternatives to pest controls or no pesticides; and/or,
- policy of not applying chemicals when rainfall is in the forecast.

If the company cannot oblige, consider switching to a lawn care company that will.

Who Should Carry Out Maintenance

Involving the Community

It is a common misconception that curbside storm drains go to a water treatment plant. In actuality, they lead to a stormwater facility or directly to a stream!

Educating and involving the community is a cost-effective way to prolong the life of the facility, prevent pollution, and make a difference in improving the local environment. Activities can range from organizing a clean-up day to developing a community-wide education program.

Numerous local organizations provide supplies, resources, and technical support to businesses and communities interested in developing a public education program or hosting an event.



A community activity, such as a cleanup or tree planting, will help increase appreciation for a facility and maintenance.

Questions to Ask When Developing a Public Education Program for a Community

What pollution problem(s) need to be addressed?

Determining the type of pollution that is causing an issue with a stormwater management facility can help with planning community activities to remediate the problem.

What activity or activities are responsible for pollution?

Locating possible sources of pollution are helpful in targeting educational messages, planning activities, and determining solutions.

Who can help implement a community education program?

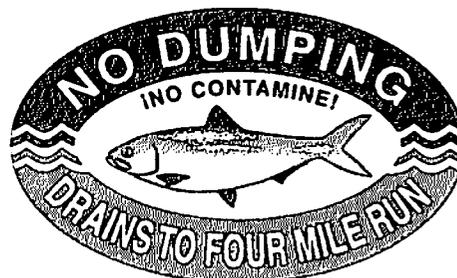
Rallying the community together can make an activity much more successful. One suggestion is to involve an existing active group that is looking for opportunities to complete community service or volunteer hours.

How will the message reach the targeted community?

Publicizing the event or educational message using existing or new outlets, including websites, list serves, and newsletters, should be explored.

What alternatives to pollution generating activities should be encouraged?

Implementing solutions and providing alternatives for pollution prevention will greatly assist in reducing the amount of pollution entering a stormwater management facility and local streams.



A storm drain marking project will increase awareness that storm drains lead to streams.

Tips to Lessen Maintenance Costs

If properly cared for, a stormwater management facility can work effectively for years without major maintenance costs. Neglected, it can potentially be a continual financial drain.

Businesses and homeowner associations can minimize costs and the potential liability of those responsible for the facility's maintenance by promoting and following these simple rules:

DO!!

- ; DO keep properties, streets, and gutters free of trash, debris, and lawn clippings.
- ; DO provide information to those who maintain their own automobiles on where to recycle oil and antifreeze.
- ; DO encourage residents to take dirty vehicles to a commercial carwash or select a location where soapy water will infiltrate into the ground and not enter a storm drain.
- ; DO put a pan underneath your car if it is leaking to catch the fluids until it is repaired. Spread an absorbent material, such as kitty litter, to soak up drippings and dispose of it properly.
- ; DO educate residents on where to properly dispose of hazardous wastes, including oil and latex paint.
- ; DO plan lawn care to minimize the use of chemicals and pesticides. Sweep paved surfaces of fertilizers and put the clippings back on the lawn.
- ; DO limit the amount of impervious surfaces. For patios, walkways, and landscaping, consider porous pavements such as bricks, interlocking blocks, or gravel.
- ; DO plant native trees, shrubs, and groundcovers to help the water soak into the ground. Replace turf with native plants. Select species that need little or no fertilizer or pest control and are adapted to specific site conditions.
- ; DO sweep up and dispose of sand and ice melting chemical residues in the winter. This will protect grass and other plants, as well as reduce the amount entering the storm drain network.

DO NOT!!

- : DO NOT dump used motor oil, antifreeze or other oil and grease into storm inlets. This is a criminal offense and will greatly increase BMP maintenance costs.
- : DO NOT dump grass clippings, leaves, soil, or trash of any kind into the stormwater facility or a storm inlet. Leaves and grass clippings release bacteria, oxygen consuming materials and nutrients. They will also clog the facility's components.
- : DO NOT dispose of pet wastes in the storm system, including grassy areas near a facility. Animal wastes contain disease-causing bacteria and release oxygen consuming materials.
- : DO NOT wash dirty vehicles on streets or driveways. Whatever comes off the car ends up in the stormwater facility or directly in streams.
- : DO NOT overfertilize the lawn. Whatever washes off the lawn or impervious areas (such as driveways or sidewalks) drains into the stormwater facility and shortens its life-span.
- : DO NOT leave bare areas unstabilized. Erosion from bare soil results in sediments that can quickly clog a stormwater facility.
- : DO NOT dispose of left over paint or hazardous materials into the storm drain. These materials can kill vegetation and aquatic life. Dumping into the storm drain system is also a criminal offense.

Troubleshooting Guide

SEDIMENT REMOVAL AND DISPOSAL

Impact on Facility Performance

The purpose of a stormwater treatment facility is to remove pollutants, including suspended solids, by capturing sediment. Sediment can include dirt, leaves, and litter. These materials can restrict or clog a facility. Timely removal of sediment will improve infiltration rates, water quality, and help prevent clogging and flooding.

Type of Facility This Applies To

Remove Sediment When

Vegetated

Vegetated Rooftops, Bioretention Facilities, Ponds, Constructed Wetland Forebays, Swales, and Vegetated Filters

- Sediment depth is damaging or killing vegetation; or,
- Sediment is preventing the facility from draining in the time designed (usually 48 - 72 hours).

Underground

Manufactured Facilities, Sand Filters, Underground Detention

- At least once a year, or when
- The basin is half-full of sediment, whichever comes first.

Infiltration

Permeable Paving Materials (Grasscrete, permeable pavers, gravel), Infiltration Trenches

- Sediment is preventing the facility from draining in the time required (usually 48 hours).

What to Do

For small facilities, sediment can be removed by hand. Large facilities and underground facilities will need to be cleaned with heavy equipment by trained professionals. For example, a vacuum truck may need to be used for confined spaces.

- Remove sediment during dry months when it is easiest to remove because it weighs less and creates fewer secondary environmental impacts, such as wet sediment running off the site.

Vegetated Facilities:

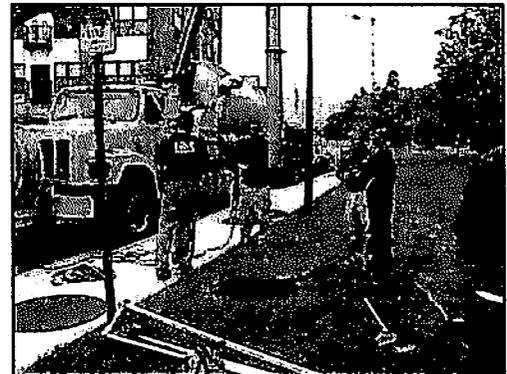
- Use rakes and shovels to dig out accumulated sediment.
- Avoid damage to existing vegetation. If sediment is deep, some plants may need to be removed to excavate sediment.
- Reseed, replant, and mulch disturbed area to prevent erosion.
- Excavate sand and gravel and clean or replace.

Underground Facilities:

- Use a vacuum truck to remove sediment from the vaults or chambers.

Infiltration Facilities:

- Infiltration Trenches: Excavate sand or gravel and clean or replace.
- Permeable Paving Materials: Remove accumulated sediment from the surface with a dry broom, vacuum system, or other hand tools. A vacuum truck or street sweeping equipment may also be used, with professional assistance.



A vacuum truck may be required to remove sediment from stormwater facilities located underground.

How To Reduce Sediment Accumulation in the Facility

- Minimize external sources of sediment, such as eroding soil upstream of the facility.
- Sweep surrounding paved areas on the property regularly.

VEGETATION MANAGEMENT

Importance to Facility Performance

Plants play an important role in stormwater facilities. They absorb water, improve infiltration rates of soil, prevent erosion by stabilizing soil, cool water, and capture pollutants. Plants create habitat for birds and other wildlife and provide aesthetic value to a property. Proper maintenance of vegetation improves the appearance and performance of the facility.

Type of Facility

Vegetated

Vegetated Rooftops, Bioretention Facilities, Ponds, Swales, and Vegetated Filters

Facility Needs Maintenance When

- Areas of exposed, bare soil.
- Vegetation is buried by sediment.
- Vegetation appears unhealthy or has died.
- Nuisance and invasive plants are present.
- Vegetation is compromising the facility's structure by blocking inlets or outlets, or roots are intruding into the component of the facility.
- Dropped leaves and other debris are contributing to sediment accumulation or are blocking inlets or outlets.

What to Do

Maintenance activities can easily be incorporated into existing site landscape maintenance contracts. Vegetation can be maintained with a formal or more natural appearance depending on your preference.

General maintenance:

- Remove dropped leaves, dead plants, grass and other plant clippings. Plant debris adds nutrient pollution as it breaks down and can clog facility piping and reduce infiltration.
- Avoid using fertilizers, herbicides, or pesticides in the facility. These products add to the pollution problems the facilities are designed to remedy.
- Use mulch to inhibit weed growth, retain moisture, and add nutrients. Replenish when needed. Ensure mulch does not inhibit water flow.
- Irrigate all new plantings as needed for the first two years.

Caring for desired vegetation:

- Plant in late-fall or early-spring so plant roots can establish during the cool, rainy seasons, before summer.
- Amend and aerate compacted soils before replanting by adding compost to increase nutrients and enhance soil texture.
- Protect young plantings from herbivory from deer and waterfowl.

Mowing:

- Grass facilities are designed for routine mowing. Mow at least twice a year.
- Grass should be mowed to keep it 4 - 9 inches tall. Grass that is at least 4 inches tall capture more pollutants and is hardier.

Nuisance and unwanted vegetation:

- Remove nuisance and invasive vegetation, such as English Ivy, before it goes to seed in the spring. Conduct additional weeding in the fall. Check the *Stormwater Resource Guide* on page 35 for a guidebook to invasive plants in the Chesapeake Bay Watershed.
- Immediately remove vegetation that is clogging or impeding flow into the facility.
- Remove potentially large and deep-rooted trees or bushes when they might impede the flow path or compromise facility structures.
- Provide erosion control on any soil exposed by vegetation removal.

EROSION, BANK FAILURE, AND CHANNEL FORMATION

Importance to Facility Performance

Stormwater flowing through a facility can cause erosion. Erosion can increase sediment build up, clog outlets, reduce water quality benefits, add to pollution, and cause facility components to fail. Eroded channels create an easy path for water to travel down reducing the ability of the facility to filter pollutants and infiltrate water.

Type of Facility

Vegetated

Vegetated Rooftops, Bioretention Facilities, Ponds, Swales, and Vegetated Filters

Facility Needs Maintenance When

- The formation of flow restricting channels occurs in the bottom of the facility, around inlet pipes and curb cuts, or at overflows.
- Undercutting, scouring, and slumping occur along banks and berms.
- Channels and undercutting occur through check dams*.

**check dams are small berms built across a swale or channel to slow water and create small areas of ponding.*

What to Do

Any area with erosion more than two inches deep needs maintenance.

- Fill the eroded area with soil, compact it lightly, and cover with mulch, compost, seed, sod, or other erosion prevention materials.
- Plant banks with deep or heavily rooted plants to permanently stabilize soil.
- Plant the bottom of the facility with grass or grass-like plants to slow water and stabilize soil.
- Install or repair structures designed to dissipate energy and spread flow, such as splash blocks on downspouts, or riprap around inlet pipes and curb cuts.
- If erosion continues to be a problem, consult a professional to determine the cause and the solution.

POLLUTION YOU CAN SEE OR SMELL

Importance to Facility Performance

Stormwater facilities often collect a variety of trash and debris. Trash and debris, especially floating debris, can clog pipes or treatment media. It can also cause odors through decay or by collecting spilled or dumped materials. Stormwater facilities are designed to help prevent pollutants from entering rivers and streams. Any visible water quality pollutants may wash out of the facility spreading the pollution problem.

Type of Facility

All Types of Facilities

Facility Needs Maintenance When

Any unusual or unpleasant smells from sources such as:

- Natural plant decay
- Dying plants trapped under sediment.
- A spill or a leak (e.g., gasoline or sewage).

Visible pollution such as:

- Sheens and discoloration
- Turbid (cloudy) water
- Other pollution on the surface of the water.

What to Do

Check monthly for trash and debris and look for opportunities to minimize the pollutant source.

- Regularly remove trash and plant debris.
- Remove accumulated sediment (see "Sediment Removal" in this guidebook).
- Make sure inlets and outlets are not clogged.
- Identify the source of trash, debris, or pollutant, such as a spill, leak, or illicit discharge.
- If there is evidence of a spill or leak, call 9-1-1. Use trained professionals for any cleanup or remediation.

Troubleshooting Guide

PONDING WATER

Importance to Facility Performance

Most facilities are designed to drain in a certain amount of time. This varies from two to 48 hours depending on the type of facility. Ponding water is usually a sign that the facility's filter or outlet is clogged or it is not infiltrating properly.

Type of Facility

Facility Needs Maintenance When

Vegetated

Vegetated Rooftops, Bioretention Facilities, Ponds, Swales, and Vegetated Filters

- Clogging of overflows or outlets with debris, trash, or other obstructions.
- Fine sediments filtering into the soil or other filtration media (like sand or gravel) that can prevent proper infiltration.
- Water that has remained ponded for more than 72 hours.
- Evidence of seepage at toe of slope on embankment (wet and dry ponds).

Underground

Manufactured Facilities and Sand Filters

Infiltration

Permeable Paving Materials

What to Do

Any area with erosion more than two inches deep needs maintenance.

- For surface facilities, first try raking the top few inches of soil to break up clogged sections and restore water flow.
- Clean out overflows and outlets with hand tools, if possible. Difficult or hard to access blockages may require professional contractors.
- Identify sources of sediment and debris and prevent them from entering the facility.
- Make sure the facility has adequate vegetation. Vegetation absorbs water and roots help keep soil loose so it can infiltrate water.
- Make sure there is a sufficient amount of mulch in vegetated facilities. This will also help to absorb excess water.

Acknowledgements:

Thank you to all who reviewed or provided comments and input on this document, including:

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Montgomery County, MD - page 12

Wetland Studies and Solutions, Inc - page 13

Stormwater Lingo - A Glossary of Commonly Used Terms

A

Access Systems

Measures and devices that provide access to facility components by maintenance personnel and equipment.

Aeration

The process of introducing air space into soil.

Anti-Vortex Device

A device that promotes the settling of pollutants by preventing a whirlpool from occurring at the outlet device.

B

Berm

An elongated elevated ridge of material that is used to hold or direct stormwater.

Best Management Practice - BMP

A facility designed to reduce the impacts on local streams from pollutants and increased stormwater caused by development.

Bypass System

A system which allows maintenance by temporarily diverting stormwater or allowing it to flow through a facility during heavy rain events.

D

Dam/Embankment

The wall or structural fill that impounds runoff in the facility.

Dredge

The process of physically removing sediment from the bottom of a pond.

E

Emergency Outlet/Spillway

The structure that safely conveys overflows from the facility.

Emergent Plants

An aquatic plant that is rooted in sediment but whose leaves are at or above the water surface.

F

Filter Fabric/Geomembrane

A webbed fabric which serves to filter pollutants or to hold a filter medium such as gravel or sand in place.

I

Impervious Cover

Any hard surface that prevents water from infiltrating into the soil.

Integrate Pest Management Plan - IPM

A plan that minimizes the application of pesticides and fertilizers on vegetated or grassed areas.

L

Low Impact Development - LID

An integrated stormwater management design strategy to replicate pre-development hydrology. LID techniques promote storage, infiltration, and groundwater recharge.

P

Perimeter

The outward boundary of the BMP.

Principal Outlet

The structure that controls and conveys the facility's outflow.

Pump System

Electrical/mechanical components, including pipework, used to convey discharge under pressure.

R

Riprap

A layer or mound of large stones placed to prevent erosion.

Riparian

Habitat occurring along the banks of a water body.

Riser/Outlet

A vertical pipe extending from the bottom of a BMP that is used to control the rate of stormwater discharge.

S

Side Slopes

Slopes at dams, embankments, spillways, and the facility perimeter.

Swale

An elongated depression in the land used to channel runoff.

Stormwater Management - SWM

A system of structural and non-structural practices used to control the water quantity and water quality of stormwater runoff.

T

Trash Rack

Device placed upstream of the principle outlet or drain to intercept debris.

Trickle Ditch/Low Flow System

Measures that convey low and dry weather inflows to the principle outlet without detention.

V

Vegetative Cover

Vegetation used to stabilize surfaces and/or provide stormwater treatment.

Stormwater Resource Guide

Local Government Agencies - Information on facilities, maintenance agreements, and responsibilities.

Arlington County	Water, Sewers, and Streets Division	703-228-6485 www.arlingtonva.us
City of Alexandria	Transportation and Environmental Services	703-838-4334 www.alexandriava.gov
Town of Dumfries	Public Works	703-221-3400 www.dumfriesvirginia.org
Fauquier County	Community Development	540-347-8660 www.fauquiercounty.gov
Town of Leesburg	Engineering and Public Works	703-771-2790 www.leesburgva.org
Fairfax County	Maintenance and Stormwater Management Division	703-934-2800 www.fairfaxcounty.gov
City of Fairfax	Public Works, Stormwater Supervisor	703-385-7980 www.fairfaxva.gov
City of Falls Church	Public Works	703-248-5080 www.ci.falls-church.va.us
Town of Herndon	Public Works	703-435-6853 www.herndon-va.gov
Loudoun County	Building and Development	703-777-0397 www.co.loudoun.va.us
City of Manassas	Public Works	703-257-8378 www.manassacity.org
City of Manassas Park	Public Works	703-335-8820 www.cityofmanassaspark.us
Prince William County	Environmental Services	703-792-7070 www.co.prince-william.va.us
Town of Vienna	Public Works	703-255-6381 www.ci.vienna.va.us

Soil and Water Conservation Districts (SWCD) - Information on erosion and sediment control.

John Marshall SWCD	Fauquier County	540-347-3120 www.co.fauquier.va.us/government/departments/jmswcd
Loudoun SWCD	Loudoun County	703-771-8395 www.loudoun.vaswcd.org
Northern Virginia SWCD	Fairfax County	703-324-1460 www.fairfaxcounty.gov/nvswcd
Prince William SWCD	Prince William County	703-594-3621 www.pwsxcd.org

Virginia Cooperative Extension Offices - Information on vegetation and landscape management and soil testing laboratories.

Arlington County	703-228-6400 www.offices.ext.vt.edu/arlington
City of Alexandria	703-519-3325 www.offices.ext.vt.edu/alexandria
Fairfax County	703-324-8556 www.offices.ext.vt.edu/fairfax
Fauquier County	540-341-7950 www.offices.ext.vt.edu/fauquier
Loudoun County	703-777-0373 www.offices.ext.vt.edu/loudoun
Prince William County	703-594-3621 www.offices.ext.vt.edu/prince.william

Additional Contacts

Northern Virginia Regional Commission	703-642-4625 www.novaregion.org
Prince Georges County, Maryland	301-883-5935 www.goprincegeorgescounty.com
Virginia Department of Game and Inland Fisheries	804-367-1000 www.dgif.state.va.us
Virginia Department of Transportation	703-383-VDOT www.virginiadot.org

Stormwater Resource Guide

Planting and Vegetation Management Guides

Amrhein, T. and R. Tuttle. 2006. *Plants for Vegetated Rooftops*. Fairfax County Department of Public Works and Environmental Services, Fairfax, VA.

Jolicoeur, C. and R. Tuttle. 2006. *Plants for Bioretention Basins*. Fairfax County Department of Public Works and Environmental Services, Fairfax, VA.

Slattery, Britt E., Kathryn Reshetiloff, and Susan M. Zwicker. 2003, 2005. *Native Plants for Wildlife Habitat and Conservation Landscaping: Chesapeake Bay Watershed*. U.S. Fish and Wildlife Service, Chesapeake Bay Field Office, Annapolis, MD.
www.nps.gov/plants/pubs/chesapeake/

Swearingen, J., K. Reshetiloff, and S. Zwicker. 2002. *Plant Invaders of Mid-Atlantic Natural Areas*. National Park Service and U.S. Fish and Wildlife Service, Washington, D.C.
www.nps.gov/plants/alien/pubs/midatlantic/

Pest Management Resources

Metzger, Marco E. 2004. *Managing Mosquitoes in Stormwater Treatment Devices*. University of California Division of Agriculture and Natural Resources, Oakland, CA.
www.ucmrp.ucdavis.edu/publications/managingmosquitoesstormwater8125.pdf

Fairfax County Mosquito Surveillance Program
<http://www.fairfaxcounty.gov/hd/westnile/wnvmosq.htm>

Stormwater Management Resources

Stormwater Management Facilities Operation and Maintenance for Private Property Owners. City of Portland Environmental Services, Portland, OR.
www.portlandonline.com/shared/cfm/image.cfm?id=54730

Center for Watershed Protection. 1997. *Stormwater BMP Design Supplement for Cold Climates*, Ellicott City, MD.
www.cwp.org/cold-climates.htm

Low Impact Development Literature Review and Fact Sheets. U.S. Environmental Protection Agency
www.epa.gov/owow/nps/lid/lidlit.html

Northern Virginia Regional Commission and Engineers & Surveyors Institute. 1992. *Northern Virginia BMP Handbook - A Guide to Planning and Designing Best Management Practices in Northern Virginia*, Fairfax, VA.
www.novaregion.org/bmp.htm

Storm Water Virtual Trade Show Technologies. U.S. Environmental Protection Agency New England's Center for Environmental Industry and Technology (CEIT)
www.epa.gov/region01/assistance/ceitts/stormwater/techs.html



Northern Virginia Regional Commission
3060 Williams Drive, suite 510
Fairfax, VA 22035
www.nova-region.org



Virginia Coastal Zone
MANAGEMENT PROGRAM



this project was funded by the Virginia Coastal zone Management Program at the Department of Environmental Quality through grant number NA04NOs4190060 of the National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management under the Coastal zone Management Act of 1972, as amended. this project was conducted as part of the Coastal Nonpoint source Pollution Control Program in partnership with the Department of Conservation and Recreation.

the views expressed herein are those of the authors and do not necessarily reflect the views of NOAA or any of its subagencies or DEQ.

**Attachment 4:
Stormwater TV Slides**

While being good to your car, don't be bad to the river.

Ever wonder where all that dirty, soapy water goes after it runs off your driveway? The wastewater flows directly into local streams without treatment.

Wash your car on your lawn, an area that does not drain directly into the street, or take it to a carwash facility that recycles its wash water.

For more information, please visit

www.town.ashland.va.us/carwashing



CAR WASH FUNDRAISERS

WHAT: Permits are required for car wash fundraisers

WHERE: Apply at the Town of Ashland Public Works Department

WHO: Jennifer Schöntag (804)798-9219



**When it rains in
Ashland....**



...where does the water
go???



An aerial photograph showing the Chesapeake Bay watershed. The land is a mix of green forest and brownish urban/developed areas. The bay itself is a large, irregularly shaped body of water, and the ocean is visible to the right. The text is overlaid on the image.

**ALL our storm water drains
to the Chesapeake Bay!**

REMEMBER:

Only **RAIN**
down the
DRAIN!

DO NOT POUR UNWANTED HOUSEHOLD CHEMICALS DOWN DRAINS!

Dispose of Household Hazardous Waste Properly!



For information contact the Town of Ashland at 798-9219

Or go to <http://cvwma.com/recycling-wizard/>

Protect our Streams Scoop the Poop!

IT'S NOT JUST A COURTESY

Rainwater drains into Ashland's streams washing everything with it. Scoop the poop and keep our streams clean and healthy.

You can find bag dispensers
at these locations:



- Carter Park
- DeJarnette Park
- Pufferbelly Park
- Railside Park
- Stony Run Trail

Protect our Streams
Scoop the Poop!

**Attachment 5:
Maintenance Requirements
for Septic Tanks in CBPAs
(on Town Website)**



Town of Ashland

VIRGINIA

Related Pages

- Best Management Practices
- Car Washing Guidelines
- Illicit Discharge
- Pet Waste Disposal
- Septic Tank Pump Out

Popular Links

- Online Bill Pay
- Student Center
- Notify Me
- Forms
- Report a Concern

You are here: Home > Government > Departments > Public Works > Stormwater Management > Preventing Stormwater Pollution > Septic Tank Pump Out

Septic Tank Pump Out

Septic Tank Pump Out in CBPAs



The Town has an ordinance requiring that septic tanks located in Chesapeake Bay Preservation Areas (CBPAs) be pumped-out at least once every five years.

To protect the health of the streams in the Town of Ashland and the Chesapeake Bay, the Town has an ordinance requiring that septic tanks located in Chesapeake Bay Preservation Areas (CBPAs) be pumped-out at least once every five years [Section 4.1-209(b)(5)]. According to State law, the Town keeps track of compliance with this requirement. The Town sends reminders to owners of septic tanks in the CBPAs indicating that a pump out is required. If you receive such a letter please have your system pumped out at your soonest convenience.

Please call Garett Prior at (804) 798-1073 if you have questions.



Site Map
Accessibility
Copyright Notices | Disclaimer
Translation

101 Thompson St.
P.O. Box 1600
Ashland, VA 23005
Ph: (804) 798-9219



Powered by CivicPlus Using Green Energy

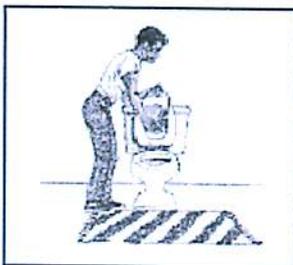
**Attachment 6:
Pollution Prevention Flyers**



What You Can Do:

Always clean up after your pet and dispose of the waste in the trash in a sealed or tied plastic bag.

Flush your pet's waste down the toilet. The waste from your toilet goes to a septic system or wastewater treatment plant that removes pollutants before the water reaches streams, rivers or the Bay.



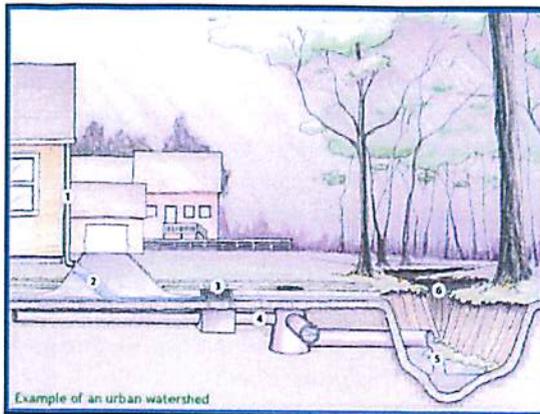
Encourage your neighbors and other pet owners to clean up - it's part of the responsibility of owning a pet.

What You Should Not Do:

Don't dispose of waste in a stormwater drain! These systems go directly to streams that drain to rivers and eventually the Chesapeake Bay.

Don't use pet waste as a fertilizer. The bacteria in pet waste does more harm than good.

Stormwater Run-off Problems



Example of an urban watershed

- 1 - Downspout
- 2 - Untreated runoff
- 3 - Storm drain
- 4 - Sewer system
- 5 - Untreated stormwater discharge
- 6 - Local stream

Run off - Run off is stormwater that flows over impervious surfaces such as rooftops, driveways, sidewalks, streets and to some extent over residential lawns. As it flows, it picks up oils, lawn chemicals, **pet waste** and other pollutants along the way.

Polluted stormwater runoff has been identified as a major cause of water quality problems in the Chesapeake Bay.

CLEAN WATER

THE CLEAR CHOICE

For more information contact:

Jenny Schöntag
804-798-9219

To report illegal dumping or a spill call

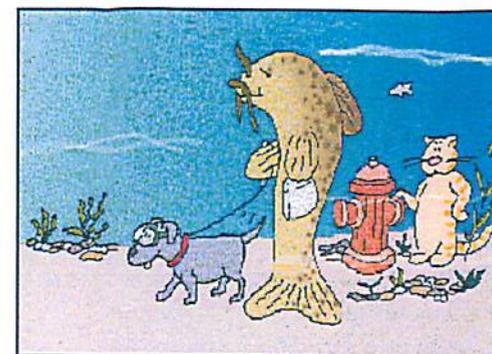
798-9219 or email:

CleanWater@town.ashland.va.us

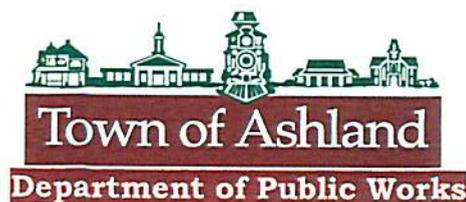
Printed on recycled paper

CLEAN WATER

THE CLEAR CHOICE

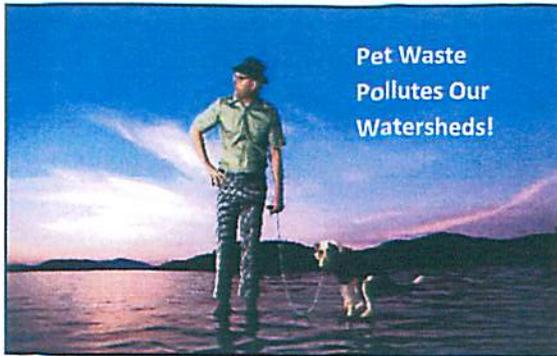


Pet Waste and Water Quality



P.O. Box 1600
101 Thompson Street
Ashland, VA 23005

Phone: 804-798-9219
Fax: 804-798-4892



**Pet Waste
Pollutes Our
Watersheds!**

Pet waste left on the street or lawn does not just go away or fertilize the grass; the rain washes all that pet waste and bacteria into our storm drains and pollutes our streams!

Facts about Pet Waste & Water Quality

- There are approximately 5,000 dogs in Ashland.
- A dog population of 5,000 is estimated to contribute about 2,000 pounds of solid waste every day and has been identified as a major contributor of bacteria to the stream.
- Pet waste contains harmful bacteria such as *E. Coli* and fecal coliform. Waters that contain a high amount of bacteria such as *E. Coli* are unhealthy for human contact and wildlife. Did you know that a **single gram (0.035 ounces) of dog waste can contain 23 million fecal coliform bacteria?**
- In addition to bacteria, pet waste contains nitrogen and phosphorus, nutrients that can speed growth of algae and aquatic weeds which are harmful to streams, rivers and the **Chesapeake Bay**. Excess vegetation growth is unsightly, and it uses up the oxygen that fish and other aquatic life need to live.

Here are some easy steps for dealing with your pet's waste:

- **Always carry a plastic bag** when you walk your dog; re-using an old newspaper delivery bag or plastic grocery bag works well. To avoid unpleasant surprises, check the bag for holes before your pet's walk!
- Use the bag as a glove to pick up the pet waste. Turn the bag inside out around the waste, scoop it up, seal the bag, and **dispose of it in a trash can**. You can also flush un-bagged pet waste down the toilet.
- **Don't place bagged or un-bagged pet waste in storm drains (or ditches)!** Also, do not hose pet waste towards storm drains, as they drain directly to streams that drain to rivers and eventually to the Chesapeake Bay.
- If you have a large yard, **bury un-bagged pet waste** about 5 inches deep in the ground away from vegetable gardens and waterways. Do not add to compost piles, as compost piles may not get hot enough to kill disease-causing organisms.
- Remove waste from areas where children play or you garden.
- **Wash your hands** with warm, soapy water after dealing with pet waste!



Please help

**KEEP OUR
PARKS AND
OUR
STREAMS
CLEAN!**

**Pet Waste
Stations**
are located in
all Town
parks. Please
use them to

**PICK UP PET
WASTE!**



**Pets 'on-leash' are permitted at
all Town of Ashland parks:**

- **Carter Park**
- **DeJarnette Park**
- **Pufferbelly Park**
- **Railside Park**
- **S Taylor Street Park**
- **Stony Run Trail**

Illicit Discharge-

What you don't know can hurt you...
and the environment!

An illicit discharge is anything that goes down the storm drain that is not storm water.

Some discharges are considered cleaner, such as tap water from leaking water pipes and irrigation, groundwater and spring water.

Other discharges are more dangerous, such as wash water from laundry, car or shop floor cleaning, sewage from pipes and septic systems, and liquid wastes such as oil, paint, and any automotive fluids.

Illicit discharges may be intentional or unintentional. Intentional dumping of waste into storm drains by a business or/and individual has legal consequences, as local, state, and federal laws protect the streams and water bodies into which they flow.

Unintentional illicit discharges occur daily, because many people do not realize the ways in which their daily activities contribute to the polluting of our waters. Soapy water from car washing, pet feces that are not picked up, waste water from household appliances that drain directly to the outside, pesticide and fertilizer use, and improper disposal of motor oil and paint are some of the ways in which an individual may unwittingly be damaging our ecosystem.

Other illicit discharges occur when sewer pipes are connected directly to storm water pipes, or when sewer pipes or septic systems leak.

FOR MORE INFORMATION
CONTACT

THE TOWN OF ASHLAND:
(804) 798-9219

CleanWater@town.ashland.va.us

OR VISIT US ONLINE:

www.town.ashland.va.us



03/08

ONLY RAIN
DOWN
THE DRAIN!



- WHAT DOES IT MEAN?
- WHY SHOULD I CARE?
- WHAT CAN I DO?

**ILLICIT DISCHARGE AND
WATERSHED PROTECTION**

*Because today's actions
affect tomorrow's world*

What does it mean?

ONLY RAIN DOWN THE DRAIN!

No, we are not talking about the sink or bathtub drain, so what ARE we talking about?



STORM WATER DRAINS!

These can be open channels or enclosed pipes that rain water flows into whenever there is a storm. They take the water running off of roadways and property to help prevent or minimize flooding or standing water. This water flows into nearby rivers and streams, and eventually into the Chesapeake Bay.



ONLY RAIN!

Because the water flowing into a storm water drain does not pass through a treatment plant before discharging into rivers and streams, it is important that the water be as clean as possible and not contaminated with pollutants such as sewage, oil, paint, and other chemicals.



Why should I care?

TO PROTECT OUR LOCAL STREAMS AND RIVERS-

Local waters that we enjoy every day for fishing, swimming, and boating receive our storm water runoff, along with anything else that washes down the storm drain. Creeks and Rivers such as the James, South Anna, Stoney Run, Lickinghole, and Mechumps are dependent upon us to ensure that the water flowing into them remains clean.

TO PROTECT THE CHESAPEAKE BAY-

All of the storm water that flows down our streams and rivers ends up in the Chesapeake Bay, which is used constantly for fishing (both commercial and private) and public enjoyment. When polluted storm water enters the bay via the rivers, it dumps lots of things that we certainly wouldn't want to swim in, much less have the food that we consume swim in! Pollutants such as heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria can threaten aquatic, wildlife, and human health. If you've ever had a fish tank, just think of what would happen if you dumped these contaminants into your aquarium – not good!

BECAUSE THERE ARE LAWS-

Laws protecting our waters ensure that those who contribute to their pollution will face legal consequences if caught.

What can I do?

THERE ARE MANY WAYS THAT YOU CAN HELP KEEP OUR WATER CLEAN:

When washing a car or other vehicle, do the work on the lawn instead of the driveway. Not only will the ground become a natural filter for the soapy water, but you will be watering your grass at the same time! Taking your automobile to a car wash center also prevents illicit discharge because the water drains into sewer pipes instead.

If you have a dog, be sure to pick up fecal matter in your yard or when walking your dog and dispose of it either in the trash or toilet. Feces left behind can be swept down the drain in the next storm and can contain harmful bacteria and viruses that would contaminate water supplies.

Limit pesticide and fertilizer use in your yard. Find out what plants thrive best in your area, reducing the need for chemicals. Look into the ever-increasing ways that you can care for your lawn and garden naturally. Not only will you be keeping chemicals out of the water, but you will have a naturally healthier lawn and garden that requires less care!

Be mindful of automotive fluids. When changing the oil or other fluids in a vehicle, take the used fluids to a location that accepts such materials for recycling or proper disposal. If you are unsure as to where to take waste fluids, contact the Town of Ashland for area locations. Check your vehicle regularly for leaks as well, as fluids leaking onto roadways are washed down the drain with every rainfall.

**While being good to your car,
don't be bad to the river.**



Ever wonder where all that dirty, soapy water goes after it runs off your driveway?

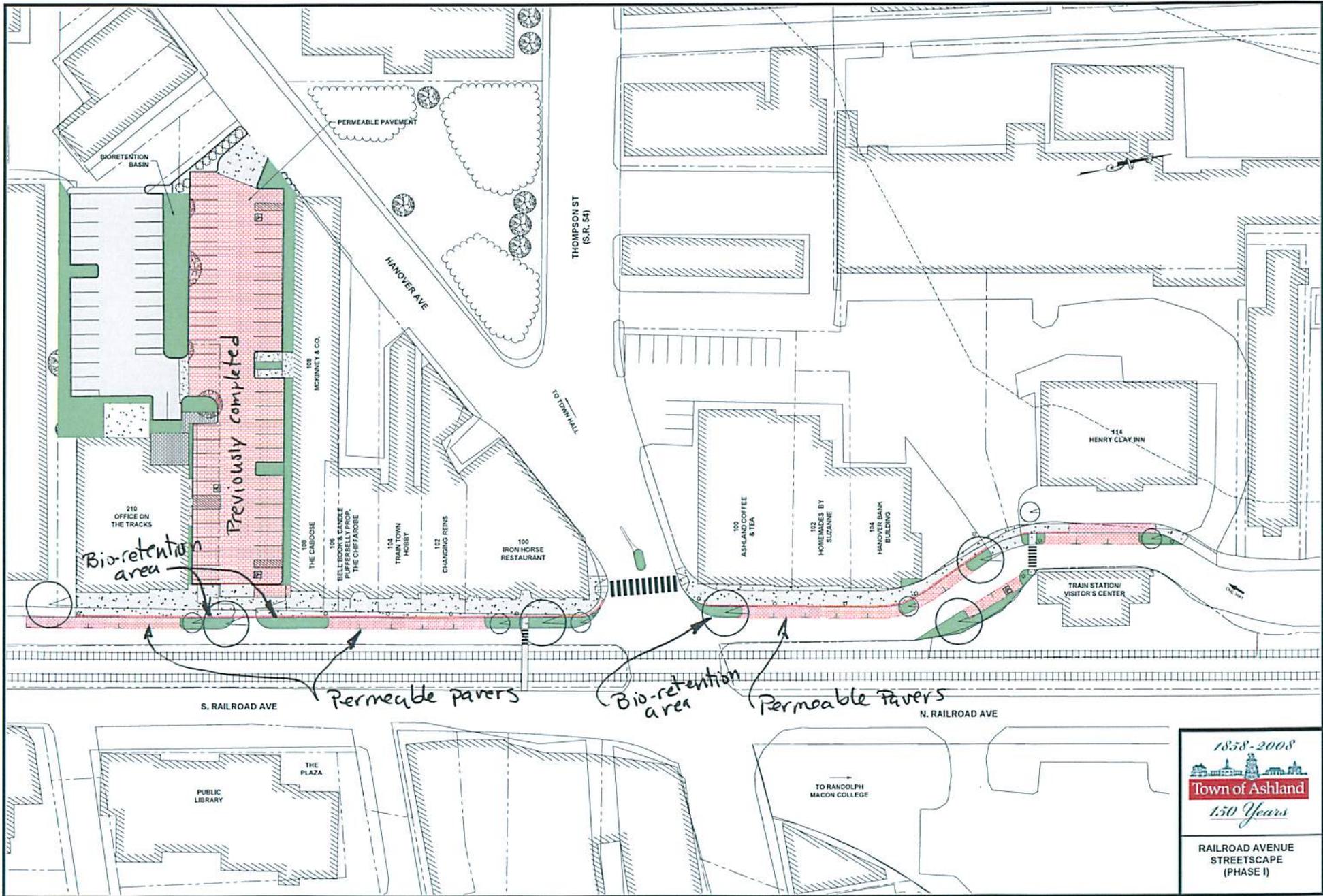
The wastewater flows directly into local streams without treatment.

Wash your car on your lawn, an area that does not drain directly into the street, or take it to a carwash facility that recycles its wash water.

For more information, please visit
www.town.ashland.va.us/carwashing



**Attachment 7:
Street-scape Photos &
Conceptual Plans**



1858-2008

 Town of Ashland
 150 Years
 RAILROAD AVENUE
 STREETScape
 (PHASE I)



Permeable Pavers and Bio-Retention Areas at Parking Lot Entrance

**Attachment 8:
Public Meeting
Announcement Example**



Related Pages

[Agendas & Minutes Archive](#)

[Participating in Town Meetings](#)

Popular Links

- [Online Bill Pay](#)
- [Student Center](#)
- [Notify Me](#)
- [Forms](#)
- [Report a Concern](#)

You are here: [Home](#) > [Government](#) > [Town Meetings](#)

Town Meetings

Town of Ashland Streaming Media Archive

Archived videos are arranged by date, with the most recent at the top of the list. Click **Video** to watch the meeting with documents, or **Agenda / Minutes** to see just the documents. You can also search the archives by typing keywords into the Search box.

Live and Archived video can be viewed on most desktop browsers and a range of popular mobile devices. For additional information on supported platforms, please view the [minimum system requirements](#).

Mobile users click here:
[Mobile Streaming Media Page](#)

Upcoming Events

Name	Date
Town Council Meeting	October 07, 2014 - 07:00 PM
Planning Commission Meeting	October 08, 2014 - 07:00 PM

Search Archives: [Advanced Search](#)

Search: Name & Description Agenda Items

All these words:

This exact phrase:

One or more of these words:
 or or

But none of these words:

Date Range:
 through

[Return to basic search](#)

Archived Videos

Name	Date	Duration	Agenda	Minutes	Video	MP3 Audio	MP4 Video
Town Council Meeting	Sep 16, 2014	02h 21m	Agenda		Video	MP3 Audio	MP4 Video
Town Council Meeting	Sep 2, 2014	00h 54m	Agenda	Minutes	Video	MP3 Audio	MP4 Video
Town Council Meeting	Aug 19, 2014	00h 42m	Agenda	Minutes	Video	MP3 Audio	MP4 Video
Town Council Work Session	Aug 12, 2014	00h 00m		Minutes	Video	MP3 Audio	MP4 Video
Town Council Meeting	Aug 5, 2014	00h 34m	Agenda	Minutes	Video	MP3 Audio	MP4 Video
Town Council Meeting	Jul 15, 2014	01h 44m	Agenda	Minutes	Video		MP4 Video
Planning Commission Meeting	Jul 9, 2014	00h 41m	Agenda		Video	MP3 Audio	MP4 Video
Town Council Meeting	Jul 1, 2014	00h 26m	Agenda	Minutes	Video	MP3 Audio	MP4 Video
Town Council Meeting	Jun 17, 2014	02h 00m	Agenda	Minutes	Video		MP4 Video
Town Council Meeting	Jun 3, 2014	00h 13m	Agenda	Minutes	Video	MP3 Audio	MP4 Video
Town Council Meeting (2 of 2)	May 20, 2014	00h 16m	Agenda	Minutes	Video	MP3 Audio	MP4 Video
Town Council Meeting (1 of 2)	May 20, 2014	00h 59m	Agenda	Minutes	Video	MP3 Audio	MP4 Video
Planning Commission Meeting	May 14, 2014	01h 52m	Agenda		Video		MP4 Video



Town of Ashland

Center of the Universe

ASHLAND TOWN COUNCIL AGENDA

June 17, 2014 – 7:00 p.m.

1. **CLOSED MEETING (6:15 PM)**
 - A. Interview candidates for Planning Commission and Board of Zoning Appeals
2. **CALL TO ORDER**
 - A. Invocation – Chief Douglas Goodman
 - B. Pledge of Allegiance to the Flag - Mayor Faye Prichard
 - C. Announcement of Council business - Mayor Faye Prichard
3. **CITIZEN INPUT**
4. **CONSENT AGENDA** **PAGE 3**
 - A. Minutes for June 3, 2014
 - B. Invoices: EDA – Dominion Resources Green/Clean Tech Incubator (\$20,000)
 - C. VML Insurance Programs Bylaw Amendment
5. **PUBLIC HEARING**
 - A. ORD2014-03: Stormwater Management and Fee Schedule **PAGE 28**
 - B. ORD2014-02: B-1 Zoning Update Amendments **PAGE 49**
6. **ACTION AGENDA**
 - A. Terry Germon Lot Frontage Exception **PAGE 123**
7. **APPOINTMENTS**
 - A. Planning Commission (*2 Expiring Terms*)
 - B. Board of Zoning Appeals (*1 Expiring Term*)
 - C. Parks and Recreation Committee (*1 Vacancy*)
8. **NEW BUSINESS**
 - A. Mayor's Report*
 - B. Council Member Reports*
 - C. Committee Reports*
9. **MANAGEMENT REPORTS**
 - A. Police Department Report **PAGE 132**
 - B. Planning Department Report **PAGE 136**
 - C. Public Works Department Report **PAGE 139**
 - D. Finance Department Report **PAGE 149**
10. **ADJOURNMENT**

**Attachment 9:
Macon a Difference Day
Project List & Information**



MACON A DIFFERENCE DAY



Join in the campus-wide initiative, as Randolph-Macon students get involved with our community. Macon a Difference Day will take place on Saturday, April 26, 2014. Macon a Difference Day is an annual event held in conjunction with the celebration of Earth Day. Students, staff, and faculty volunteer along with citizens of the Town of Ashland on a variety of earth friendly and service projects in the Randolph-Macon Community and the Town of Ashland.



Macon a Difference Day was created in 2006 and each year since its inception participation has increased and the College and the Ashland community have augmented the scope of their community service to truly make this an important event. And we need YOU to volunteer to make this year's event even more successful!

Macon a Difference Day is a collaboration between the College and The Hanover County Department of Community Resources on their annual Global Youth Service Day. Hanover County is hoping to host Hanover's most successful Global Youth Service Day to date. For the sixth consecutive year, Hanover County has been selected by youth Service America to serve as one of 79 Global Youth Service Day Lead Agencies throughout the Nation. Celebrated in over 100 countries, Global Youth Service Day is an annual world-wide event that mobilizes millions of youth to improve their communities through service and service-learning. This year R-MC will take part in the national event through our community service effort for Macon a Difference Day.

At Macon a Difference Day we will be collecting electronic waste to donate to Hanover Industries, which uses the recycled

waste to create employment and job training opportunities for people with disabilities in our local community. We will take any of the following: televisions, computer monitors, computers systems (hard drive, CPU), computer accessories (cables, wires, keyboards, mice, speakers, etc.), printers, scanners & copiers, telephones & cell phones, fax machines, VCRs & camcorders, stereos, and microwaves that you no longer use, or which do not work and are beyond repair, used batteries, and ink cartridges and laser printer toners. Any items that Hanover Industries cannot use, will be given to a non-profit recycling organization that has a 0% waste to landfill policy.

If you have a service project that you would like to be completed during Macon a Difference Day please fill out the MADD Project Proposal Form.

Macon a Difference Day Project Opportunities for 2014

<u>Grassroots III</u>
Location: RAFT House, Hanover County 14433 N. Washington Highway Ashland VA 23005
Time: 9:00 am - 12:00 pm (includes lunch)
Prepare lawn for spring and summer by providing assistance to the members with task such as gardening, weeding, and trimming bushes. Wear comfortable clothing/shoes, possibly bring bug spray and sun screen.
Number of Volunteers: 20

<u>Friends of the Ashland Library</u>
Location: 201 S Railroad Ave Ashland VA 23005
Time: 10:00 am - 2:00 pm
Help set up and take down tables and move books for a book sale. Help the patrons find what they are looking for and help keep the tables filled with books.
Number of Volunteers: FULL

<u>Cleaning Up Macon</u>
Location: Fox Hall
Time: 9am
Picking up trash from the James street trail.
Number of Volunteers: 10-15

<u>Ashland Historic Garden Tour</u>
--

Location: Ashland Historic Garden

Time: April 26th 9 am- 1 pm (shift one)

Direct traffic from drop offs to fields for parking. Also show people where to park in fields
 Greet cars at drop offs & help ladies out of cars
 Work at the shuttle site - helping people on & off small bus
 Selling Tickets & handing out literature
 Doing tours in the homes
 Helping with lunch at Locust
 Helping with refreshments at Southwood

Number of Volunteers: 20

Challenger Baseball

Location: TBA

Time: On site at 8:30am

Work with children with disabilities playing baseball.

Number of Volunteers: FULL

Healthy Kids Day!

Location: Ashland YMCA

Time: 9am

Healthy Kids Day is a fair for children and their families to learn about and celebrate healthy habits. Volunteers will assist with activities, bounce houses, healthy snacks, set up/take down of tables and chairs.

Number of Volunteers: FULL

Mechumps Creek Cleanup

Location: Area behind APD to I-95

Time: 9am

Looks for 20 people to pick up trash and debris in and along the creek.

Number of Volunteers: 20

Clean Up Ashland

<u>Low Impact Development</u>
Location: Different locations around campus (you will be given a set location)
Time: 9am
Volunteers will work to maintenance and develop the rain gardens on campus.
Number of Volunteers: FULL

<u>Smith and Henry Native Plant Lot</u>
Location: Smith at Henry Street
Time: 9am
Volunteers will be weeding, mulching, and planting.
Number of Volunteers: FULL

<u>Hanover Parks and Recreation</u>
Location: Poor House and Taylor Parks
Time: 9am
Volunteers will be planting and maintaining park landscape.
Number of Volunteers: 12-20

<u>Ashland Railroad Run</u>
Location: TBA
Time: 7:30am
Volunteers will be needed to "marshal" the runners in the right direction and help with any vehicles if they need to cross over the running course at any time.
Number of Volunteers: FULL

<u>International House Herb Garden</u>
Location: R-MC International House

Time: 9am
Volunteers will be weeding, mulching, and planting
Number of Volunteers: FULL

<u>Electronic Disposal</u>
Location: Fountain Plaza
Time: 9am
Volunteers will be collecting old electronics for safe disposal.
Number of Volunteers: FULL

**Attachment 10:
Table of MS4 Outfalls**

Town of Ashland

MS4 Outfalls

FY2013-2014 MS4 Annual Report

Outfall Identifier	Hydrologic Unit Code	Latitude, Longitude	MS4 Acreage Served	Receiving Surface Water	Is the Receiving Surface Water Impaired? (y/n)	Applicable TMDLs	Comments
MC01	YO27	37.757911, -77.474028	26.81	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	APD
MC02	YO27	37.757908, -77.474030	3.03	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	APD
MC03	YO27	37.757907, -77.474032	0.04	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	APD
MC04	YO27	37.757906, -77.474035	0.06	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	APD
MC05	YO27	37.757905, -77.474036	0.73	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	APD
MC10	YO27	37.757871, -77.473405	0.31	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	APD
MC15	YO27	37.757230, -77.471606	1.29	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	Rt1
MC20	YO27	37.757181, -77.471320	0.42	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	Rt1
MC21	YO27	37.757171, -77.471312	0.15	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	Rt1
MC22	YO27	37.757152, -77.471300	1.78	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	Rt1
MC25	YO27	37.756923, -77.470453	13.32	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	
MC30	YO27	37.756265, -77.467708	4.69	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	CGD
MC35	YO27	37.756192, -77.467752	1.96	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	CGD
MC40	YO27	37.756597, -77.466300	4.52	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	
MC45	YO27	37.756517, -77.465641	14.1	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	
MC50	YO27	37.756631, -77.463793	7.67	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	HCP
MC55	YO27	37.756753, -77.462682	0.42	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	
MC60	YO27	37.756830, -77.461011	41.66	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	Walmart
MC65	YO27	37.756889, -77.460910	2.89	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	
MC70	YO27	37.756919, -77.460578	5.3	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	
MC75	YO27	37.757110, -77.459347	5.01	Mechumps Creek	Yes	3.16 +13 cfu/yr E. Coli	Cracker Barrel
SC01	YO27	37.769699, -77.469431	79.82	Slayden Creek	No		
SC20	YO27	37.767600, -77.467024	23.65	Slayden Creek	No		
FC01	YO11	37.774771, -77.476810	58.4	Falling Creek	No		From Carters Hill
FC10	YO11	37.772362, -77.483170	19.51	Falling Creek	No		From Carters Hill
LC01	JL17	37.740900, -77.468826	4.3	Lickinghole Creek	No		
LC05	JL17	37.734460, -77.470011	7.15	Lickinghole Creek	No		Kempsville
SR01	JL17	37.760202, -77.491732	8.97	Stony Run	No		
SR05	JL17	37.759700, -77.489918	1.76	Stony Run	No		
SR10	JL17	37.755961, -77.489573	0.14	Stony Run	No		
SR15	JL17	37.755942, -77.489628	0.28	Stony Run	No		
SR20	JL17	37.755823, -77.489571	10.41	Stony Run	No		
SR25	JL17	37.755819, -77.489607	0.48	Stony Run	No		
SR30	JL17	37.754509, -77.489438	8.8	Stony Run	No		
SR35	JL17	37.752676, -77.489249	3.14	Stony Run	No		
SR38	JL17	37.750609, -77.488153	32.25	Stony Run	No		
SR40	JL17	37.743632, -77.483119	31.45	Stony Run	No		
SR45	JL17	37.741309, -77.483701	21.27	Stony Run	No		

Attachment 11: IDDE Program

Illicit Discharge Detection and Elimination Procedures
Town of Ashland
June 2014

The following outlines procedures to detect, identify and address unauthorized non-stormwater discharges, including illegal dumping, to the Town's MS4.

1. There are thirty-eight (38) MS4 outfalls in the Town. Because this is fewer than fifty, the Town will inspect all the outfalls every year. However, because there is an e. coli TMDL for Mechumps Creek and its watershed is most urbanized, the outfalls to Mechumps Creek will be inspected first. Appendix A is a table of Mechumps Creek outfalls.
2. All outfalls are to be screened annually.
3. The following data will be collected and recorded on the form in Appendix B.
 - Number of days since the last rain – this will be determined by consulting the Town's rainfall data sheet at: <S:\PUBWKS\Rainfall Info\RAINfall statistic.xls>;
 - The quantity of the last rain – this information is also found on the rainfall data sheet;
 - Site descriptions (e.g., conveyance type and dominant watershed land uses) – this information is found in the table under Item 1 above;
 - Estimated discharge rate (e.g., width of water surface, approximate depth of water, approximate flow velocity, and flow rate) – collect/estimate during inspection; and
 - Visual observations (e.g., order, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology) – collect/estimate during inspection.
4. If illicit discharges are detected, investigations of the potential source will be performed as follows:
 - Investigations to determine source of illicit discharges suspected of being sanitary sewage or significantly contaminated will be conducted first, and will begin within 3 days of discovery.
 - Investigations of illicit discharges suspected of being less hazardous to human health and safety such as non-contact cooling water or wash water will begin within 7 days of discovery, unless Town resources are occupied investigating/eliminating suspected sanitary sewage or significantly contaminated discharges.
 - No action is required for discharges authorized under a separate VPDES or state permit.
5. Methodologies to determine the source of all illicit discharges shall be as follows:
 - Inspect outfalls annually during dry weather.
 - If there is a flow, trace back along storm sewer using spreadsheet in Appendix C and storm sewer map.
 - If an illicit discharge is found, but within six months of the beginning of the investigation neither the source nor the same non-stormwater discharge has been identified, then document/summarize as follows:

- the date that the suspected discharge was observed, reported, or both;
 - how the investigation was resolved, including any follow-up, and
 - resolution of the investigation and the date the investigation was closed.
 - If the observed discharge is intermittent, document that a minimum of three separate investigations were made in an attempt to observe the discharge when it was flowing. If these attempts are unsuccessful, then document/summarize as follows:
 - the date that the suspected discharge was observed, reported, or both;
 - how the investigation was resolved, including any follow-up, and
 - resolution of the investigation and the date the investigation was closed.
6. To eliminate identified sources of illicit discharges, precede as follows.
 - Notify property owner or owner of facility. Request immediate remedy.
 - If remedy is not immediate, proceed with penalties described in section 4.1-503 of the Town Code.
 7. Follow-up investigations will be done in accordance with section 4.1-504 of the Town Code. Inspections and monitoring may be performed by the Town, or required of the owner, on a quarterly basis until there is no more evidence of the illicit discharge.
 8. All investigations are documented as follows:
 - the date or dates that the illicit discharge was observed and reported;
 - the results of the investigation;
 - any follow-up to the investigation;
 - resolution of the investigation; and
 - the date that the investigation was closed.

Appendix A
Mechmps Creek Outfalls and Locations

Outfall Identifier	Hydrologic Unit Code	Latitude, Longitude	Applicable TMDLs	Location*
MC01	YO27	37.757911, -77.474028	3.16 +13 cfu/yr E. Coli	APD
MC02	YO27	37.757908, -77.474030	3.16 +13 cfu/yr E. Coli	APD
MC03	YO27	37.757907, -77.474032	3.16 +13 cfu/yr E. Coli	APD
MC04	YO27	37.757906, -77.474035	3.16 +13 cfu/yr E. Coli	APD
MC05	YO27	37.757905, -77.474036	3.16 +13 cfu/yr E. Coli	APD
MC10	YO27	37.757871, -77.473405	3.16 +13 cfu/yr E. Coli	APD
MC15	YO27	37.757230, -77.471606	3.16 +13 cfu/yr E. Coli	Rt1
MC20	YO27	37.757181, -77.471320	3.16 +13 cfu/yr E. Coli	Rt1
MC21	YO27	37.757171, -77.471312	3.16 +13 cfu/yr E. Coli	Rt1
MC22	YO27	37.757152, -77.471300	3.16 +13 cfu/yr E. Coli	Rt1
MC25	YO27	37.756923, -77.470453	3.16 +13 cfu/yr E. Coli	
MC30	YO27	37.756265, -77.467708	3.16 +13 cfu/yr E. Coli	CGD
MC35	YO27	37.756192, -77.467752	3.16 +13 cfu/yr E. Coli	CGD
MC40	YO27	37.756597, -77.466300	3.16 +13 cfu/yr E. Coli	
MC45	YO27	37.756517, -77.465641	3.16 +13 cfu/yr E. Coli	
MC50	YO27	37.756631, -77.463793	3.16 +13 cfu/yr E. Coli	HCP
MC55	YO27	37.756753, -77.462682	3.16 +13 cfu/yr E. Coli	
MC60	YO27	37.756830, -77.461011	3.16 +13 cfu/yr E. Coli	Walmart
MC65	YO27	37.756889, -77.460910	3.16 +13 cfu/yr E. Coli	
MC70	YO27	37.756919, -77.460578	3.16 +13 cfu/yr E. Coli	
MC75	YO27	37.757110, -77.459347	3.16 +13 cfu/yr E. Coli	Cracker Barrel

*See Map for exact locations

APD – Ashland Police Department

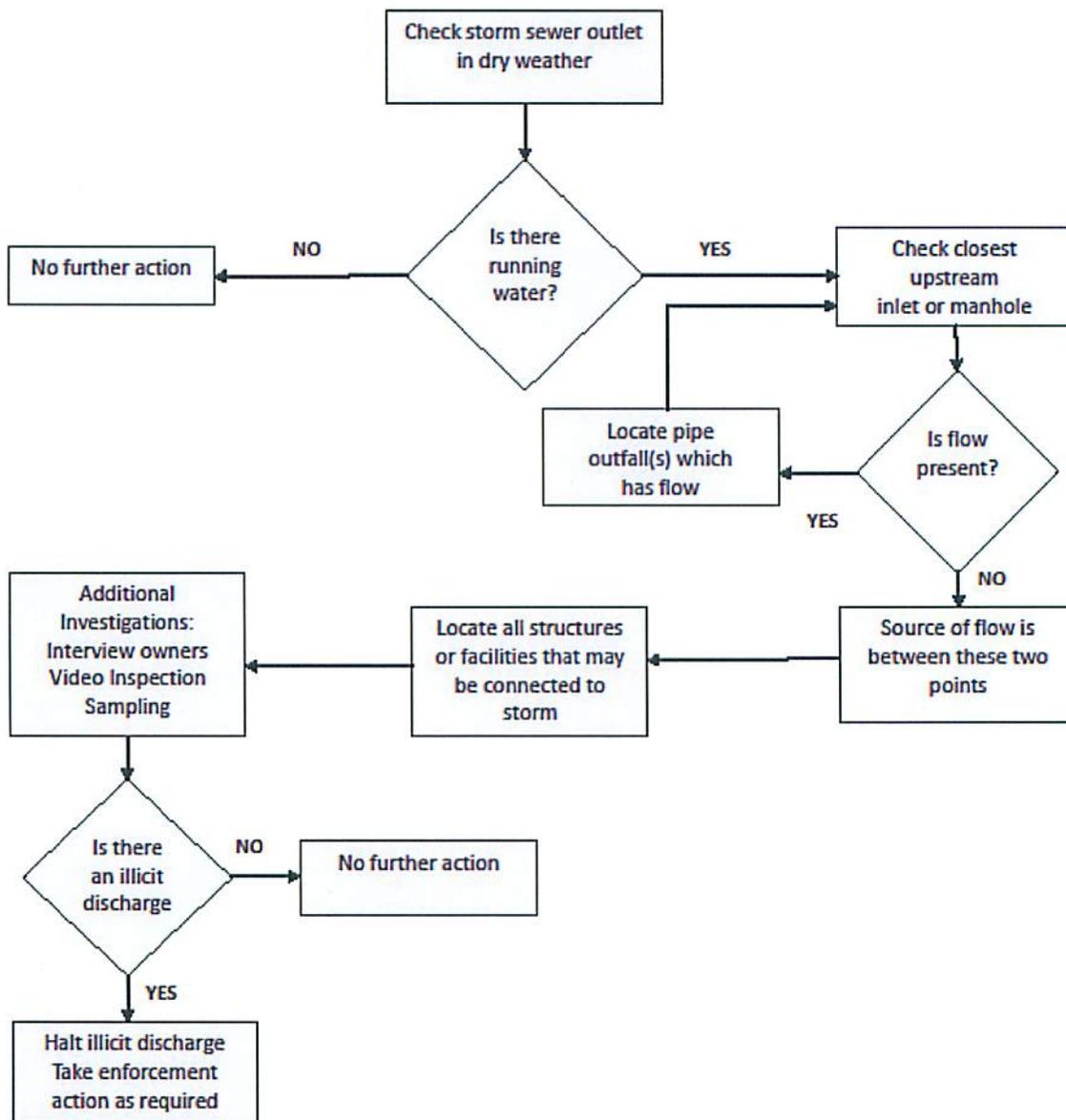
Rt1 – Route 1

CGD – Cottage Greene Drive

HCP – Hill Carter Parkway

Detecting Illicit Discharges

USING INFORMATION IN THE STORM SEWER MAPS



Attachment 12

Carwash Guidelines



Town of Ashland

Center of the Universe

101 THOMPSON STREET
P.O. BOX 1600
ASHLAND, VIRGINIA 23005-4600

TELEPHONE (804) 798-9219
FAX (804) 798-4892

Vehicle Washing Guidelines Phase II (MS4) Stormwater Program Town of Ashland

Water from vehicle washing can make its way across a hard surfaced parking lot and enter the storm drainage system. From there, wash water may enter our creeks and streams potentially harming fish and other aquatic life, and make its way to rivers and, eventually, the Chesapeake Bay. Water from vehicle washing may contain contaminants such as nutrients and hydrocarbons and should not discharge to the storm drainage system, creeks or streams.

According to State Regulations and the Town of Ashland's Municipal Separate Storm Sewer System (MS-4) Management Program Ordinance, only individual residents washing cars may discharge wash water to storm sewers (although it is discouraged). All others discharging from vehicle washing activities to storm sewer are in violation of the Town ordinance.

Areas for Vehicle Washing

The following are recommendations for anyone washing vehicles:

- Use a commercial car wash where wastewater is properly treated.
- Wash vehicles in an area designed for vehicle washing where the water is discharged to the sanitary sewer system for treatment. Or collect wash water for proper disposal later.
- If vehicle washing will be done outside, designate an area for on-site vehicle washing that discharges to gravel, grass, or other permeable surfaces that allows water to infiltrate (i.e., *no* discharge of wash water from the site).
- Use hoses with nozzles that automatically turn off when left unattended.
- Spills of wash water, cleaning products or other fluids should be immediately contained and treated or removed.

Cleaning Products

- Use products labeled "non-toxic," "phosphate free," and "biodegradable." These products can be purchased at most large retail outlets. Note that even biodegradable and nontoxic soaps can be harmful to aquatic life and water quality, and must be kept out of the storm drain system.
- Do not use acid-based wheel cleaners or engine degreasers unless the waste can be properly disposed of.
- Reduce the amount of soap used by using a bucket of soapy water to re-soap rags or sponges rather than adding more soap directly to rags or sponges.

Revised 5/27/11

S:\PUBWKS\Storm Water Phase II\illicit discharge\Car Washing\ Car Washing Guidance.doc

FAYE O.
PRICHARD
MAYOR

GEORGE F.
SPAGNA, JR.
VICE MAYOR

TERRI
WINSTON-ABRI
COUNCIL MEMBER

EDWARD L.
HENSON, III
COUNCIL MEMBER

JAMES F.
FOLEY
COUNCIL MEMBER

CHARLES W.
HARTGROVE
TOWN MANAGER

ANDREA E.
ERARD
TOWN ATTORNEY

LOIS A. SMITH
CLERK OF COUNCIL



TOWN OF ASHLAND
101 THOMPSON STREET / P.O. BOX 1600
ASHLAND, VIRGINIA 23005

Car Wash Application

Contact Jennifer Schöntag at 804-798-9219

Name of Group: _____

Contact Person: _____

Phone: _____ E-mail: _____

Car Wash Event Date/Time: _____

Car Wash Event Location (see "Areas for Vehicle Washing" below): _____

Cleaning Products to be Used (see "Cleaning Products" below): _____

Areas for Vehicle Washing

- Use a commercial car wash where wastewater is properly treated.
- Wash vehicles in an area designed for vehicle washing where the water is discharged to the sanitary sewer system for treatment. Or collect wash water for proper disposal (in sanitary sewer or recycled) later.
- **For fund raiser/non-profit car wash events only:** If vehicle washing will be done outside, designate an area for on-site vehicle washing that discharges to gravel, grass, or other permeable surfaces that allows water to infiltrate (i.e., no discharge of wash water from the site).
- Use hoses with nozzles that automatically turn off when left unattended.
- Spills of wash water, cleaning products or other fluids should be immediately contained and treated or removed.

Cleaning Products

- Use products labeled "non-toxic," "phosphate free," and "biodegradable." These products can be purchased at most large retail outlets. Note that even biodegradable and nontoxic soaps can be harmful to aquatic life and water quality, and must be kept out of the storm drain system.
- Do not use acid-based wheel cleaners or engine degreasers unless the waste can be properly disposed of.
- Reduce the amount of soap used by using a bucket of soapy water to re-soap rags or sponges rather than adding more soap directly to rags or sponges.

For Town of Ashland Use

Approved By: _____
(name and title of approving authority)

Date: _____

**Attachment 13:
IDDE Tracking
Spreadsheet**

**Attachment 14:
List of BMPs in the
Database**

**Town of Ashland
BMP Information**

	Site Name	Address	BMP Type	Drainage Basin	HUC Code	Treated Area (ac.)	Interval Inspections	Date Agreement Signed	Date Site Accepted	Inspected in FY13-14
1	Ashland Christian Center	12230 Maple Street	Extended Detention Basin	Falling Creek	Y011	9	3	1/13/2006	1/13/2006	
2	Ashland Christian Church	301 S. James Street	Infiltration Trench	Mechump's Creek	Y027	0.5	3	3/31/2003	3/31/2003	Yes
3	Ashland Junction Shopping Center	Junction Road	Extended Detention Basin	Mechump's Creek	Y027	4.03	3	1/27/1989	1/27/1989	Yes
4	Ashland Simply Storage	423 A. S. Washington Highway	Detention Basin	Mechump's Creek	Y027	6.46	3	9/13/1999	9/13/1999	
5	Autozone	200 South Washington Highway	Manufactured BMP System	Mechump's Creek	Y027	0.9	3	11/13/2001	11/13/2001	
6	Berkley Woods Subdivision (Transferred to HOA)	Henry St. & Berkley Woods Dr.	Retention Basin	Falling Creek	Y011	10.5	3	2/11/2011	8/1/2006	Yes
7	Blair Manor	Robinson Street	Filterra	Mechump's Creek	Y027	1.01	3	11/24/2004	2/2/2006	
8	Cracker Barrel	106 South Carter Road	Detention Basin	Mechump's Creek	Y027	4.6	3	4/5/1995	4/5/1995	
9	East Coast Car Wash	801 England Street	Detention Basin	Mechump's Creek	Y027	2.35	3	3/19/1999	3/19/1999	Yes
10	First Baptist Church - Ashland	800 Thompson Street	Retention Basin	Stony Run	JL17	6.75	3	3/8/2005	5/20/2008	
11	First Capital Bank	409 South Washington Highway	Filterra	Mechump's Creek	Y027	0.85	3	1/26/2005	2/2/2006	
12	Fleetwood Homes	12058 S. Washington Highway	Retention Basin	Lickinghole Creek	JL17	2.97	3	4/21/1999	4/21/1999	
13	Hampton Inn	Route 54	Extended Detention Basin	Mechump's Creek	Y027	0.41	3	6/1/1998	6/1/1998	
14	Hanover Business Center	303 Ashcake Road/340 Hill Carter Parkway	Retention Basin	Lickinghole Creek	JL17	10.9	3	7/25/2007	12/20/2007	Yes
15	Hanover Manor	813 Thompson Street	Extended Detention Basin	Falling Creek	Y011	2.3	3	4/2/1992	4/2/1992	
16	Holiday Inn	105 South Carter	Sand Filter	Mechump's Creek	Y027	2.2	3	4/28/2003	4/28/2003	
17	McDonalds	103 South Carter Road	Filterra	Mechump's Creek	Y027	1.87	1	9/8/2006	9/8/2006	
18	Saint Ann's Catholic Church Parking Lot Addition	105 South Snead Street	Filterra	Stony Run	JL17	0.45	3	4/19/2006	4/19/2006	
19	Sleep Inn Hotel	80 Cottage Greene Drive	Sand Filter	Mechump's Creek	Y027	1.59	3	2/3/2003	2/3/2003	
20	Tower Optometry	97 Omni Road	Filterra	Mechump's Creek	Y027	1	3	5/28/2004	5/28/2004	
21	North Macon Terrace, Section 1	North James Street	Retention Basin	Falling Creek	Y011	12	3	9/13/1999	9/13/1999	Yes
22	Maple Street Subdivision	9235 Shady Grove Road, Suite 200	Retention Basin	Stony Run	JL17	10.753	3	5/7/2007	4/23/2009	
23	Sheehy AutoGroup Center	Corner of Rt. 1 & North Lakeridge Parkway	Filterra	Lickinghole Creek	JL17	2.08	1	3/20/2007	Under Const.	
24	Commercial Plaster and Drywall	10399 Dow Gill Road	Filterra	Lickinghole Creek	JL17	1.24	1	1/11/2007	1/21/2008	
25	Hanson Block Plant	End of Johnson Road	Retention Basin	Stony Run	JL17	9.7	3	5/18/2007	6/30/2008	
26	Ashland Business Park		Retention Basin	Mechump's Creek	Y027	2.22	3	11/10/1988	11/10/1988	
27	Whittaker Warehouse	120 Sylvia Road	Sand Filter	Slayden Creek	Y011	5.181	3	12/17/2007	4/7/2008	Yes
28	Myrtle Street Commons	Myrtle Street	Sand Filter	Mechump's Creek	Y027	0.97	3	11/1/1996	11/1/1996	
29	Ashland Gardens	101 Omni Road	Retention Basin	Mechumps Creek	Y027	3.4	3	7/25/2007	12/6/2007	Yes
30	Ruby Tuesday	England Street - State Route 54	Extended Detention Basin	Mechumps Creek	Y027	2.9	3	7/25/2007	3/24/2008	
31	The Shoppes at Tompkins Green	200 North Washington Highway	Filterra	Mechump's Creek	Y027	1.732	1	2/23/2007	11/4/2008	Yes
32	Ashland Woods, Phase 1	Omni Drive	Retention Basin	Mechump's Creek	Y027	15.9	3	12/21/1998	12/21/1998	
33	Ashland Church of God	405 Myrtle Street	Extended Detention Basin	Mechump's Creek	Y027	1.78	3		6/14/2002	
34	Amerilube	51 Cottage Greene Drive	Filterra	Mechump's Creek	Y027	1.47	3	10/7/2007	7/31/2008	
35	Meineke Car Care	106 Junction Drive	Detention Basin	Mechump's Creek	Y027	0.98	3	2/29/2008	8/25/2008	
36	Hanover Fire-EMS Station #1	501 Archie Cannon Drive	Extended Detention Basin	Falling Creek	Y011	1.38	3	3/20/2008	9/8/2009	
37	Everhart Building	204 Virginia Street	BioFiltration	Mechumps Creek	Y027	0.183	3	4/7/2008	11/5/2009	
38	Melvin T. Morgan Roofing	10412 Dow-Gil Road	Extended Detention Basin	Lickinghole Creek	JL17	2.32	3	4/4/2008	7/29/2008	
39	Century Concrete	13135 Telcourt Rd.	Extended Detention Basin	Mechump's Creek	Y027	1.46	3	5/8/2008	11/20/2008	
40	Ashland Ford (Sheehy)	418 S. Washington Hwy.	Extended Detention Basin	Stony Run	JL17	6.35	3		9/14/1995	
41	Cottage Greene Condominiums	N Cottage Greene Drive	BioFiltration	Mechumps Creek	Y027	7.55	3	4/17/2008	6/22/2012	
42	RMC Tennis Courts	112 Henry Clay Rd.	BioFiltration	Mechumps Creek	Y027	15.55	3	5/5/2010	3/29/2011	Yes
43	Chenault Veterinary	351 S. Hill Carter Pkwy.	Detention Basin	Lickinghole Creek	JL17	9.48	3	10/5/2009	5/17/2011	
44	YMCA	217 Ashcake Rd.	Detention Basin	Stony Run	JL17	3.45	3	5/22/2009	11/23/2010	
45	Carter's Hill I Subdivision (Transferred to HOA)	N. James St.	Detention Basin	Falling Creek	Y011	11.9	3	8/2/2010	5/17/2013	
46	Heartland Subdivision	N. James St. & W. Patrick St.	Biofiltration	Falling Creek	Y011	2	3	6/21/2010	6/14/2012	
47	RMC Soccer Restroom Facility	200 Henry St.	Detention Basin	Falling Creek	Y011	1.21	3	7/7/2010	5/26/2011	
48	Ashland Towne Square Parking Lot Renovations	Rte. 520' north of Omni Rd.	BioFiltration	Mechump's Creek	Y027	1.4	3	7/12/2010	Cancelled	

**Attachment 15:
Street Sweeping Forms and
Summary**

Town of Ashland Street Sweeping FY 13-14		
Month	Month Total Miles	Month Total Vol. (c.y.)
Jul-12	84.0	85
Aug-12	57.9	85
Sep-12	58.2	99
Oct-12	87.9	161
Nov-12	22.0	54
Dec-12		
Jan-13		
Feb-13		
Mar-13		
Apr-13	37.4	84
May-13	67.3	192
Jun-13	36.6	112
Totals	451.3	872

Streetsweeper this year
Hopper Dimensions (ft):

Height	Width	Length
3.5	8.75	7.58

Density	lbs/C.Y.	486	Previously estimated by weighing empty and full sweeper Net weight was divided by measured volume for density
Total Wt.	(tons)	212	(872 c.y. * 486 lbs/c.y.) / (2000 lbs/ton)

MONTHLY SWEEPER REPORT

05/27/14 TO 06/23/14

05/27/14

Deveraux	.2
North Carter	.6
South Carter	.4
South Hill Carter	4.8
Kitty Hamilton	.2

DEBRI – 3 feet {7.4 miles}

05/28/14

Henry St	6.0
----------	-----

DEBRI – 8 feet {6 miles}

05/29/14

East Patrick	1.0
Calhoun	1.0
Smith St	.2
Caroline	1.0

DEBRI - 3 feet {3.2 miles}

05/30/14

Thompson St	1.0
England St	1.0
Hanover Ave	.2

DEBRI - 4 feet {2.2 miles}

06/02/14

Archie Cannon	.8
North Center	.6
South Center	.3
Berkley St	.3

DEBRI - 8 feet {2 miles}

06/03/14

Berkley Woods	.2
College Ave	1.0
Old Station	.2
East Francis	.3

DEBRI – 3 feet {1.7 miles}

06/04/14

Ashcake West	1.6
Arbor Oak	1.8
Water Oak Ln	.4
Ten Oaks	.4
Winter Oak Dr	.4

DEBRI – 3 ½ feet {4.6 miles}**06/05/14**

Route 1 South	1.0
Route 1 North	1.0
Amber Oaks	.2
Brown Bark	.3
Round oak Circle	.2

DEBRI – 3 feet {2.7 miles}**06/06/14**

Henry St	1.0
East Patrick	.7
Caroline	.4
England St	1.0
Thompson St	1.0
Hanover	.2

DEBRI – 3 feet {4.3 miles}**06/09/14**

Junction Dr	2.4
Cottage Green	4.0

DEBRI – 5 feet {6.4 miles}**06/10/14**

South Center	.7
North Center	.7
Devereaux	.2
South Carter	.6

DEBRI – 3 feet {2.2 mile}**06/11/14**

Sunny Dr	.4
Slash Ct	.2
Slash Dr	.4
Swanee In	.2
Swanee Ct	.2
Cotton Tree	.2
Courtside	.4
Five Oaks	.2

DEBRI – 3 feet {2.2 miles}

06/13/14

Hanover Ave	.2
England St	1.0
Thompson St	1.0

DEBRI – 1 ½ feet {2.2 miles}

06/18/14

Route 1 South	2.1
Route 1 North	1.2

DEBRI – 2 feet {3.3 miles}

06/19/14

Route 1 South	2.0
6 Drop Inlets	

DEBRI – 5 feet {2 miles}

06/20/14

England St	1.0
Thompson St	1.0
North James	1.0

DEBRI – 3 ½ feet {3 miles}

06/23/14

9 Drop Inlets	
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DEBRI – 2 feet {3 miles}

**SUBMITTED BY Robert A. Lader, Sr.
June 24th, 2014**

**Attachment 16:
BMP Maintenance Plans
for Town-Owned BMPs**

**TOWN OF ASHLAND
PERMEABLE PAVER MAINTENANCE PLAN
June 2014**

Maintenance Tasks

It is difficult to prescribe the specific types or frequency of maintenance tasks that are needed to maintain the hydrologic function of permeable pavement systems over time. Most installations work reasonably well year after year with little or no maintenance, whereas some have problems right from the start.

The following tasks **must be avoided** on all permeable pavements:

- sanding
- re-sealing
- re-surfacing
- power washing
- storage of snow piles containing sand
- storage of mulch or soil materials
- construction staging on unprotected pavement

A preventative maintenance task for large-scale applications involves regenerative air vacuum sweeping on a frequency consistent with the use and loadings encountered in the parking lot. Many consider an annual, dry-weather sweeping in the spring months to be important. The contract for sweeping should specify that a vacuum sweeper be used that does not use water spray, since spraying may lead to subsurface clogging. Vacuum settings for large-scale interlocking paver applications should be calibrated so they *do not* pick up the stones between pavement blocks.

Table 1 Recommended Maintenance Tasks for Permeable Pavement Practices.

Maintenance Task	Frequency
<ul style="list-style-type: none"> • For the first 6 months following construction, the practice and contributing drainage area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization. 	After installation
<ul style="list-style-type: none"> • Remove any soil or sediment deposited on pavement. • Replace or repair any necessary pavement surface areas that are degenerating or spalling 	As needed
<ul style="list-style-type: none"> • Vacuum pavement with a standard street sweeper to prevent clogging 	2-4 times per year (depending on use)
<ul style="list-style-type: none"> • Conduct a maintenance inspection • Spot weeding of grass applications 	Annually
<ul style="list-style-type: none"> • Remove any accumulated sediment in pre-treatment cells and inflow points 	Once every 2 to 3 years
<ul style="list-style-type: none"> • Conduct maintenance using a regenerative street sweeper • Replace any necessary joint material 	If clogged

Maintenance Inspections

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each permeable pavement site, particularly at large-scale applications.

Maintenance of permeable pavement is driven by annual inspections that evaluate the condition and performance of the practice. Any permeable pavement installation with external drainage area (run-on) should be inspected more frequently during the first year (four seasons) to ensure that there are no unexpected contributing loads of sediment or pavement particulates from the contributing area. If so, extensive investigation should assess ways to limit the contributions, or the maintenance schedule should be adjusted to ensure the pavement does not become clogged.

The following are suggested routine annual maintenance inspection points for permeable pavements:

- The drawdown rate should be measured at the observation well for three (3) days following a storm event in excess of 1/2 inch in depth. If standing water is still observed in the well after three days, this is a clear sign that clogging is a problem.
- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. If any signs of clogging are noted, schedule a vacuum sweeper (no brooms or water spray) to remove deposited material. Then, test sections by pouring water from a five gallon bucket to ensure they work.
- Inspect the structural integrity of the pavement surface, looking for signs of surface deterioration, such as slumping, cracking, spalling or broken pavers. Replace or repair affected areas, as necessary.
- Check inlets, pretreatment cells and any flow diversion structures for sediment buildup and structural damage. Note if any sediment needs to be removed.
- Inspect the condition of the observation well and make sure it is still capped.
- Generally inspect any contributing drainage area for any controllable sources of sediment or erosion.

A maintenance inspection checklist is attached.

PERMEABLE PAVEMENT: O&M CHECKLIST

Inspection Date _____
 Project _____ Site Plan/Permit Number _____
 Location _____ Date BMP Placed in Service _____
 Date of Last Inspection _____ Inspector _____
 Owner/Owner's Representative _____
 As-Built Plans available: Y / N

Facility Type: Level 1 _____ Level 2 _____

Ideally, each permeable pavement installation should be inspected in the Spring of each year, especially at large-scale installations.

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	There is excessive trash and debris				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or bare or exposed soil				Stabilize immediately.	Owner or professional	
	There is excessive landscape waste and yard clippings				Remove immediately.	Owner or professional	
Adjacent Vegetation	Trees and shrubs are within 5 feet of the pavement surface				Check that tree roots have not penetrated the pavement and leaf residue has not clogged the pavement. Vegetation that limits access or interferes with the permeable pavement operation must be pruned or removed.	Owner or Professional	
Inlets, Pre-Treatment Cells and Flow Diversion Structures	There is excessive trash, debris or sediment accumulation				Remove immediately	Owner or Professional	
	There is evidence of erosion and / or exposed soil				Stabilize immediately	Owner or professional	
	Evidence of clogging				Clean out sediment or debris. Remove and wash or replace stone, as needed	Professional	
Pavement Surface	Mosquito proliferation				Eliminate standing water and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then use a licensed pest controller to apply an approved mosquito larvicide (only if absolutely necessary).	Owner or professional	

Pavement Surface	There is evidence of erosion and / or bare or exposed soil in grid paver areas			Stabilize immediately. Mow, irrigate and apply organic (not chemical) fertilizer, as needed to keep grass healthy and dense enough to provide filtering while protecting the underlying soil. Remove any grass clippings.	Owner or professional	
	There is loose material (e.g., bark, sand, etc.) stored on the pavement surface			Remove immediately and vacuum sweep the area to prevent clogging the pavement pores.	Professional	
	Pavement is stained and/or clogged or water is ponded, indicating the pavement is not draining properly. Measure the drawdown rate in the observation well for three (3) days following a storm event that exceeds 1/2-inch of rain. If standing water is still observed in the well after three days, this is a clear sign that the pavement is clogged. There are significant amounts of sediment have accumulated between the pavers.			The surface must be kept clean and free of leaves, debris, and sediment by vacuum sweeping (without brooms or water spray) immediately and, otherwise, at a frequency consistent with the use and loadings encountered (at a minimum, annual dry-weather sweeping in the Spring). Where paving blocks are installed, the sweeper must be calibrated so it does <i>not</i> pick up the stones between the paver blocks. Following the vacuum sweeping, test pavement sections by pouring water from 5 gallon buckets, to ensure proper drainage.	Professional	
Structural Integrity	There is evidence of surface deterioration, such as slumping, cracking, spalling or broken pavers.			Repair or replace affected areas, as necessary.	Professional	
Observation Wells	Is each observation well still capped?			Repair, as necessary.	Professional	
Outlet	Outlets are obstructed or erosion and soil exposure is evident below the outlet.			Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	

TOWN OF ASHLAND
MAINTENANCE PLAN FOR BIORETENTION AREAS
June 2014

First Year Maintenance Operations

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

- **Initial inspections.** For the first 6 months following construction, the site should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- **Spot Reseeding.** Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- **Fertilization.** One-time, spot fertilization may be needed for initial plantings.
- **Watering.** Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- **Remove and replace dead plants.** Since up to 10% of the plant stock may die off in the first year, construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction. The typical thresholds below which replacement is required are 85% survival of plant material and 100% survival of trees.

Maintenance Inspections

Frequency: Annually in Spring

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each bioretention area. The following is a list of some of the key maintenance problems to look for:

- Check to see if 75% to 90% cover (mulch/stone plus vegetative cover) has been achieved in the bed, and measure the depth of the remaining mulch.
- Check for sediment buildup at curb cuts, gravel diaphragms or pavement edges that prevents flow from getting into the bed, and check for other signs of bypassing.
- Check for any winter- or salt-killed vegetation, and replace it with hardier species.
- Note presence of accumulated sand, sediment and trash in the pre-treatment cell or filter beds, and remove it.
- Inspect bioretention side slopes and grass filter strips for evidence of any rill or gully erosion, and repair it.
- Check the bioretention bed for evidence of mulch flotation, excessive ponding, dead plants or concentrated flows, and take appropriate remedial action.
- Check inflow points for clogging, and remove any sediment.
- Look for any bare soil or sediment sources in the contributing drainage area, and stabilize them immediately.
- Check for clogged or slow-draining soil media, a crust formed on the top layer, inappropriate soil media, or other causes of insufficient filtering time, and restore proper filtration characteristics.

Inspection checklist is attached.

Routine and Non-Routine Maintenance Tasks

Maintenance of bioretention areas should be integrated into routine landscape maintenance tasks. If landscaping contractors will be expected to perform maintenance, their contracts should contain specifics on unique bioretention landscaping needs, such as maintaining elevation differences needed for ponding, proper mulching, sediment and trash removal, and limited use of fertilizers and pesticides. A customized maintenance schedule must be prepared for each bioretention facility, since the maintenance tasks will differ depending on the scale of bioretention, the landscaping template chosen, and the type of surface cover. A generalized summary of common maintenance tasks and their frequency is provided in **Table 1**.

The most common non-routine maintenance problem involves standing water. If water remains on the surface for more than 48 hours after a storm, adjustments to the grading may be needed or underdrain repairs may be needed. The surface of the filter bed should also be checked for accumulated sediment or a fine crust that builds up after the first several storm events. There are several methods that can be used to rehabilitate the filter (try the easiest things first, as listed below):

- Open the underdrain observation well or cleanout and pour in water to verify that the underdrains are functioning and not clogged or otherwise in need of repair. The purpose of this check is to see if there is standing water all the way down through the soil. If there is standing water on top, but not in the underdrain, then there is a clogged soil layer. If the underdrain and stand pipe indicates standing water, then the underdrain must be clogged and will need to be snaked.
- Remove accumulated sediment and till 2 to 3 inches of sand into the upper 8 to 12 inches of soil.
- Install sand wicks from 3 inches below the surface to the underdrain layer. Sand wicks can be installed by excavating or augering (using a tree auger or similar tool) down to the gravel storage zone to create vertical columns which are then filled with a clean open-graded coarse sand material (coarse sand mix similar to the gradation used for the soil media). A sufficient number of wick drains of sufficient dimension should be installed to meet the design dewatering time for the facility.
- Last resort - remove and replace some or all of the soil media.

Table 1. Suggested Annual Maintenance Activities for Bioretention

Maintenance Tasks	Frequency
• Mowing of grass filter strips and bioretention turf cover	At least 4 times a year
• Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season
• Add reinforcement planting to maintain desired the vegetation density • Remove invasive plants using recommended control methods • Stabilize the contributing drainage area to prevent erosion	As needed
• Spring inspection and cleanup • Supplement mulch to maintain a 3 inch layer • Prune trees and shrubs	Annually
• Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Replace the mulch layer	Every 3 years

BIORETENTION PRACTICES: O&M CHECKLIST

Inspection Date _____
 Project _____ Site Plan/Permit Number _____
 Location _____ Date BMP Placed in Service _____
 Date of Last Inspection _____ Inspector _____
 Owner/Owner's Representative _____
 As-Built Plans available: Y / N

Facility Type: Level 1 _____ Level 2 _____

Facility Location:

- Surface
- Underground

Hydraulic Configuration:

- On-line facility
- Off-line facility

Filtration Media:

- No filtration (e.g., dry well, permeable pavement, infiltration facility, etc.)
- Sand
- Bioretention Soil
- Peat
- Other: _____

Type of Pre-Treatment Facility:

- Sediment forebay (above ground)
- Sedimentation chamber
- Plunge pool
- Stone diaphragm
- Grass filter strip
- Grass channel
- Other: _____

Ideally, Bioretention facilities should be inspected and cleaned up annually, preferably during the Spring. During the first 6 months following construction of a bioretention facility, the site should be inspected at least twice after storm events that exceed 1/2-inch of rainfall. Watering is needed once a week during the first 2 months following installation, and then as needed during the first growing season (April-October), depending upon rainfall. If vegetation needs to be replaced, one-time spot fertilization may be needed, preferably using an organic rather than a chemical fertilizer. Each facility should have a customized routine maintenance schedule addressing issues such as the following: grass mowing, weeding, trash removal, mulch raking and maintenance, erosion repair, reinforcement plantings, tree and shrub pruning, and sediment removal.

Element of BMP	Potential Problem	Problem? Y / N			How to fix problem	Who Will Address Problem	Comments
		Investigate? Y / N	Repaired? Y / N				
Contributing Drainage Area	Adequate vegetation				Supplement as necessary	Owner or professional	
	There is excessive trash and debris				Remove immediately	Owner or professional	
	There is evidence of erosion and / or bare or exposed soil				Stabilize immediately	Owner or professional	
	There are excessive landscape waste or yard clippings				Remove immediately and recycle or compost	Owner or professional	
	Oil, grease or other unauthorized substances are entering the facility				Identify and control the source of this pollution. It may be necessary to erect fences, signs, etc	Owner or professional	
Pre-Treatment	There is adequate				Establish adequate access	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to fix problem	Who Will Address Problem	Comments
	access to the pre-treatment facility					and, perhaps, the locality	
	Excessive trash, debris, or sediment.				Remove immediately	Owner or professional	
Pre-Treatment (continued)	There is evidence of clogging (standing water, noticeable odors, water stains, algae or floating aquatic vegetation, or oil/grease)				Identify and eliminate the source of the problem. If necessary, remove and clean or replace the clogged material.	Professional	
	There is evidence of erosion and / or exposed soil				Stabilize immediately	Owner or professional	
	There is dead vegetation or exposed soil in the grass filter				Restabilize and revegetate as necessary	Owner or professional	
Inlets	Check for sediment build-up at curb cuts, gravel diaphragms or pavement edges that prevent flow from getting into the bed, and check for bypassing.				Remove sediment and correct any other problems that block inflow.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately	Owner or professional	
	There is evidence of erosion at or around the inlet				Repair erosion damage and reseed or otherwise restabilize with vegetation	Owner or professional	
	Inflow is hindered by trees and/or shrubs.				Remove woody vegetation from points of inflow and directly above underdrains. (Trees and shrubs may be located closer to the perimeter.)	Owner or professional	
Side Slopes (Annually, after major storms)	There is evidence of rill or gully erosion or bare soil				Identify the source of erosion damage and prevent it from recurring. Repair erosion damage and reseed or otherwise restabilize with vegetation	Owner or professional	
	There is excess sediment accumulation				Remove immediately	Owner or professional	
	Side slopes support nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.	Professional	
Vegetation (monthly)	Plant composition is consistent with the approved plans and any stakes or wires are in good condition.				Determine if existing plant materials are at least consistent with general Bioretention design criteria and replace inconsistent species.	Professional	
	There should be 75-90% cover (mulch plus vegetation), and the mulch cover should be 2-3 inches deep.				Supplement vegetation and mulch as needed.		

Element of BMP	Potential Problem	Problem?	Investigate?	Repaired?	How to fix problem	Who Will Address Problem	Comments
		Y/N	Y/N	Y/N			
Vegetation (monthly) (continued)	There is evidence of hydrocarbons or other deleterious materials, resulting in unsatisfactory plant growth or mortality,				Replace contaminated mulch. If problem persists, test soils for hydrocarbons and other toxic substances. If excess levels are found, the soils, plants and mulch may all need to be replaced in accordance with the approved construction plans.	Professional	
	Invasive species or weeds make up at least 10% of the facility's vegetation				Remove invasive species and excessive weeds immediately and replace vegetation as needed.	Owner or professional	
	The grass is too high				Mow within a week. Grass species should be selected that have dense cover, are relatively slow growing, and require the least mowing and chemical inputs. Grass should be from 6-10 inches high.	Owner or professional	
	Vegetation is diseased, dying or dead				Remove and replace. Increase watering, but avoid using chemical fertilizers, unless absolutely necessary.	Professional	
	Winter-killed or salt-killed vegetation is present.				Replace with hardier species.	Owner or professional	
Filter Media (Annually)	The filter media is too low, too compacted, or the composition is inconsistent with design specifications				Raise the level, loosen and amend or replace the media, as needed, to be consistent with the state design criteria for Bioretention (85-88% sand 8-12% soil fines 3-5% organic matter in form of leaf compost). Other remediation options are described in the maintenance section of the state design criteria for Bioretention	Professional	
	The mulch is older than 3 years or is otherwise in poor condition				The mulch must be replaced every 2-3 years	Professional	
	There is evidence that chemicals, fertilizers, and/or oil/grease are present				Remove undesirable chemicals from media and facility immediately, and replace mulch or media as needed	Professional	
	There is excessive trash, debris, or sediment.				Remove trash and debris immediately. Check plant health and, without damaging plants, manually remove the sediment, especially if the depth exceeds 20% of the facility's design depth.	Owner or professional	
	There is evidence of concentrated flows, erosion or exposed soil				Identify the source of erosion damage and prevent it from recurring. Repair the erosion damage and reseed or otherwise restabilize with vegetation.	Professional	

Element of BMP	Potential Problem	Problem?	Investigate?	Repaired?	How to fix problem	Who Will Address Problem	Comments
		Y / N	Y / N	Y / N			
Filter Media (Annually) (continued)	The filter bed is clogged and/or filled inappropriately				Redistribute the soil substrate and remove sediment within 2 weeks.	Professional	
	The topsoil is in poor condition (e.g., the pH level is not 6-7, the composition is inappropriate, etc.)				Ensure a 3-inch surface depth of topsoil consistent with the state design criteria for Bioretention (loamy sand or sandy loam texture, with less than 5% clay content, and organic matter content of at least 2%). If the pH is less than 6.5, spread limestone.	Professional	
Underdrain/ Proper Drainage	The perforated pipe is not conveying water as designed				Determine if the pipe is clogged with debris or if woody roots have pierced the pipe. Immediately clean out or replace the pipe, as necessary.	Professional	
	The underlying soil interface is clogged (there is evidence on the surface of soil crusting, standing water, the facility does not dewater between storms, or water ponds on the surface of basin for more than 48 hours after an event).				Measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. After three days, if there is standing water on top but not in the underdrain, this indicates a clogged soil layer. If standing water is both on the surface and in the underdrain, then the underdrain is probably clogged. This should be promptly investigated and remediated to restore proper filtration. Grading changes may be needed or underdrain repairs made. The filter media may need to be raked, excavated and cleaned or replaced to correct the problem. Holes that are not consistent with the design and allow water to flow directly through a planter to the ground must be plugged.	Professional	
Planters	The planter is unable to receive or detain stormwater prior to infiltration. Water does not drain from the reservoir within 3-4 hours of after a storm event.				Identify and correct sources of clogging. Topsoil and sand/peat layer may need to be amended with sand or replaced all together.	Owner or professional	
	The planter has structural deficiencies, including rot, cracks, and failure, or the planter is unable to contain the filter media or vegetation				Make needed repairs immediately.	Owner or professional	
Outlet/ Overflow Spillway	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	

Element of BMP	Potential Problem	Problem?	Investigate?	Repaired?	How to fix problem	Who Will Address Problem	Comments
		Y / N	Y / N	Y / N			
Outlet/ Overflow Spillway (continued)	There is excessive trash, debris, or sediment at the outlet				Remove immediately, and keep the contributing area free of trash and debris.	Owner or professional	
	Any grates present are in good condition				Repair or replace as necessary	Owner or professional	
Observation Well	Is the observation well still capped?				Repair, as necessary.	Professional	
Overall	Access to the Infiltration facility or its components is adequate				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	There is evidence of standing water				Fill in low spots and stabilize; correct flow problems causing ponding.	Owner or professional	
	Mosquito proliferation				Eliminate stagnant pools and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied <i>only if absolutely necessary</i> .	Owner or professional	
	Complaints from local residents				Correct real problems	Owner or professional	
	Encroachment on the bioretention area or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	

**Attachment 17:
List of Town-Owned High-
Priority Facilities**

**Town of Ashland
FY 2013-2014
Inventory of High-Priority Facilities**

Potential High Priority Facility	Location	Current Practice	Additional Action Planned	Potential for Pollution
Used oil & antifreeze storage	Town Shop	Under roof, in containment area, Inspected regularly	Evaluate upgrades	Low to medium
Fuel area	Town Shop	Under roof, Veeder Root spill detection system	None planned	Low
Vehicle Repair Shop	Town Shop	All vehicles repairs are under roof. No floor drains	None planned	Low
Temp street sweepings stockpile	Town Shop Rear Yard	Inspected regularly. Drains to BMP. Material removed to permitted landfill regularly.	Upgrade BMP	Low to medium
Vehicle washing facility	Town Shop Rear Yard	Is under roof, drains to the sanitary sewer, adjacent areas drain to a BMP, oil-water separator and sand interceptor inspected regularly	Upgrade BMP	Very Low
Salt storage area	Town Shop Rear Yard	Salt/salt mixes stored in indoor facilities, mixing area drains to a BMP	Upgrade BMP	Medium
Sand and Stone Storage	Town Shop Rear Yard	Upgradient of BMP	Upgrade BMP	Medium
Tire pile	Town Shop Rear Yard	Town allowed storage of up to 200 tires, tires removed regularly	None planned	Low
Vehicle storage bays	Town Shop	Repairs needed to one bay	Repairs underway, evaluate adding up to 3 bays that will be longer	Low
Herbicide/pesticide/chemical storage	Town Shop	Only over the counter products such as Roundup used, all products are stored inside Building and Grounds shed	None planned	Very Low

**Town of Ashland
FY 2013-2014
Inventory of High-Priority Facilities**

Potential High Priority Facility	Location	Current Practice	Additional Action Planned	Potential for Pollution
Other areas monitored by Town staff:				
Vegetative debris/mulch piles	Town Shop Rear Yard	Monitored and removed regularly	Off-site disposal without stockpiling on-site	Low
Pipe, wood and metal product stockpiles	Town Shop Rear Yard	Monitored regularly	None planned	Low

Items for potential future consideration:

Storage of abandoned vehicles awaiting auction or removal stored under roof
 Receive certification for at least one individual for pesticide

**Attachment 18:
Training Plan & List of
Employees Receiving
Training**

Stormwater Pollution Prevention Employee Training Plan
Town of Ashland
MS4 Requirements
June 2014

Addressing MS4 Permit Requirements

Requirement 1: *The operator shall provide biennial training to applicable field personnel in the recognition and reporting of illicit discharges.*

- Presentation covering recognition and reporting of illicit discharges. (Year 3)
- Staff can review/sign off the Town's *Illicit Discharge Guidance Document & Field Screening Procedures* (Year 5)
- Applicable Staff:
 - Building and Grounds
 - Public Works Engineering Staff
 - Deputy Zoning Administrator
 - Public Works Street Crew
 - Ashland Police Department

Requirement 2: *The operator shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance.*

- Presentation covering pollution prevention for road, street, and parking lot maintenance. (Year 3)
- Review with staff/sign off the *Road, Street, Parking Lot Maintenance SOP* (Year 5)
- Applicable Staff:
 - Building and Grounds
 - Public Works Engineering Staff
 - Public Works Street Crew

Requirement 3: *The operator shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around maintenance and public works facilities.*

- Presentation covering pollution prevention around maintenance and public works facilities. (Year 3)
- Review with staff/ sign off the pollution prevention plan (Year 5)
- Applicable Staff:
 - Building and Grounds
 - Public Works Engineering Staff
 - Public Works Street Crew

Requirement 4: *The operator shall ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia).*

- Verify pesticide operators are certified through the Virginia Department of Agriculture and Consumer Services (VDACS) (Year 3)
- VDACS website contains list of certified applicators.
<http://www.vdacs.virginia.gov/pesticides/>
- Applicable Staff:
 - Building and Grounds

Requirement 5: *The operator shall ensure that employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.*

- Applicable staff will obtain certification as soon as possible.
- Staff keep their E&S certifications current with required renewals
- Contractors serving as construction site operators will have current E&S certification
- Applicable Staff:
 - Public Works Engineering Staff

Requirement 6: *The operator shall ensure that applicable employees obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.*

- New applicable staff will obtain certification as soon as possible.
- Staff keep their E&S certifications current with required renewals
- Applicable Staff:
 - Public Works Engineering Staff

Requirement 7: *The operators shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around recreational facilities.*

- Detailed training on pollution prevention around recreational facilities. (Year 3)
- Review with staff/ sign off the pollution prevention plan (Year 5)
- Applicable Staff:
 - Building and Grounds
 - Public Works Engineering Staff
 - Deputy Zoning Administrator
 - Public Works Street Crew

Requirement 8: The appropriate emergency response employees shall have training in spill responses. A summary of the training or certification program provided to emergency response employees shall be included in the first annual report.

- Emergency Response is handled by Hanover County. Therefore, no Training will be performed by the Town of Ashland

Requirement 9: The operator shall keep documentation on each training event including the training date, the number of employees attending the training, and the objective of the training event for a period of three years after each training event.

- Create spreadsheet for record keeping or update existing one
- Applicable Staff:
 - Public Works Engineering Staff

ASHLAND POLICE DEPARTMENT
Training
Subject: Illicit Water Discharge

Date: June/July 2014

Employee Name	Employee Signature
1. Aigner, Adam (Inv.)	
2. Aronhalt, Troy (Lt.-Investigations)	
3. Bonistalli, Grant (OIC/Patrol)	<i>[Signature]</i> 6/11/14
4. Callahan, Anthony (Cpt.)	
5. Donovan, Wayne (Patrol Officer)	<i>[Signature]</i> 6/11/14
6. Gatewood, Bill (Auxiliary Command Sgt.)	
7. Goodman, Doug (Chief)	
8. Gray, Danny (OIC/Patrol)	
9. Hanlon, Jaime (Patrol Officer)	
10. Hartman, Timothy (Patrol Officer)	
11. Helbig, Michael (Patrol Officer)	
12. Hicks, Ethan (Sgt./Patrol)	<i>[Signature]</i> 6/11/14
13. Hileman, Matt (Investigations)	
14. Hollins, Sam (Auxiliary Officer)	
15. Jenks, Doug (Sgt./Patrol)	
16. Kemp, Marie (Sgt./Patrol)	<i>[Signature]</i> 448 6/11/14
17. Marcussen, David (Patrol Officer)	
18. McCullough, Stuart (OIC/Patrol)	
19. Menzies, Scott (Sgt./Patrol)	
20. Nuessle, Scott (Patrol Officer)	
21. O'Dea, Thomas (Patrol Officer)	<i>[Signature]</i> 6/11/14
22. Smith, Bryan (Patrol Officer)	<i>[Signature]</i> 6/11/14
23. Shelhorse, James (Lt.- Special Operations)	
24. Spada, James (Patrol Officer)	
25. Stirnaman, Paul (Patrol Officer)	
26. Street, John (Investigations)	
27. Watts, Chip (Crime Prevention Officer)	<i>[Signature]</i> 6/11/14
28.	

**Attachment 19:
E. Coli Sampling Summary**

Town of Ashland MS4 Report July 1, 2013 - June 30, 2014

Approximated E. coli into Mechumps Creek

Item	Quantity	Units	Notes
Runoff	55.2	inches	July 1, 2013 - June 30, 2014
Mechumps Creek Watershed	1,880	acres	
Total Precipitation Volume	3.77E+08	cubic feet	
Runoff Volume - 45% of precip.	1.70E+08	cubic feet	
E. Coli Concentrations			Ave. See Below
North Branch	200.00	cfu/100 ml	
Middle Branch	133.33	cfu/100 ml	
South Branch	66.67	cfu/100 ml	
Average	133.33	cfu/100 ml	
Approx E. coli to Creek	6.40E+12	cfu	

North Branch/Dates:	Quantity	Units	Last Significant Rainfall (> 0.5")
October 1, 2013	200	cfu/100 ml	9/21/2013
February 10, 2014	0	cfu/100 ml	2/2/2014
June 5, 2014	400	cfu/100 ml	6/4/2014
average	200.00	cfu/100 ml	

Middle Branch/Dates:	Quantity	Units	Last Significant Rainfall (> 0.5")
October 1, 2013	100	cfu/100 ml	9/21/2013
February 10, 2014	50	cfu/100 ml	2/2/2014
June 5, 2014	250	cfu/100 ml	6/4/2014
average	133.33	cfu/100 ml	

South Branch/Dates:	Quantity	Units	Last Significant Rainfall (> 0.5")
October 1, 2013	0	cfu/100 ml	9/21/2013
February 10, 2014	0	cfu/100 ml	2/2/2014
June 5, 2014	200	cfu/100 ml	6/4/2014
average	66.67	cfu/100 ml	