TOWN OF VINTON

311 S. POLLARD STREET
VINTON, VIRGINIA 24179

PHONE (540) 983-0601
FAX (540) 983-0621

Anita J. McMillan
PLANNING AND ZONING DIRECTOR

September 30, 2010

Mr. J. Douglas Fritz, MS4 Program Manager
Virginia Department of Conservation and Recreation
203 Governor Street
Richmond, VA 23219-2010

Re: Town of Vinton VSMP - General Permit Registration Number VAR040026
Annual Report – July 1, 2009 through June 30, 2010

Dear Mr. Fritz:

As required under the Virginia General Permit for Discharges from Small Municipal Separate Storm Sewer Systems, please find attached the Town of Vinton's Annual Report and supporting materials for the reporting period of July 1, 2009, through June 30, 2010. Vinton continues to develop and implement a stormwater management program designed to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, and to satisfy the appropriate requirements of the Clean Water Act.

Vinton also encourages the involvement of its residents, property and business owners, and land development community in the administration and implementation of its stormwater management program. Vinton, in cooperation with Roanoke County, City of Roanoke, and Clean Valley Council continues to actively place special emphasis on providing education on the stormwater program to school-age children and the general public.

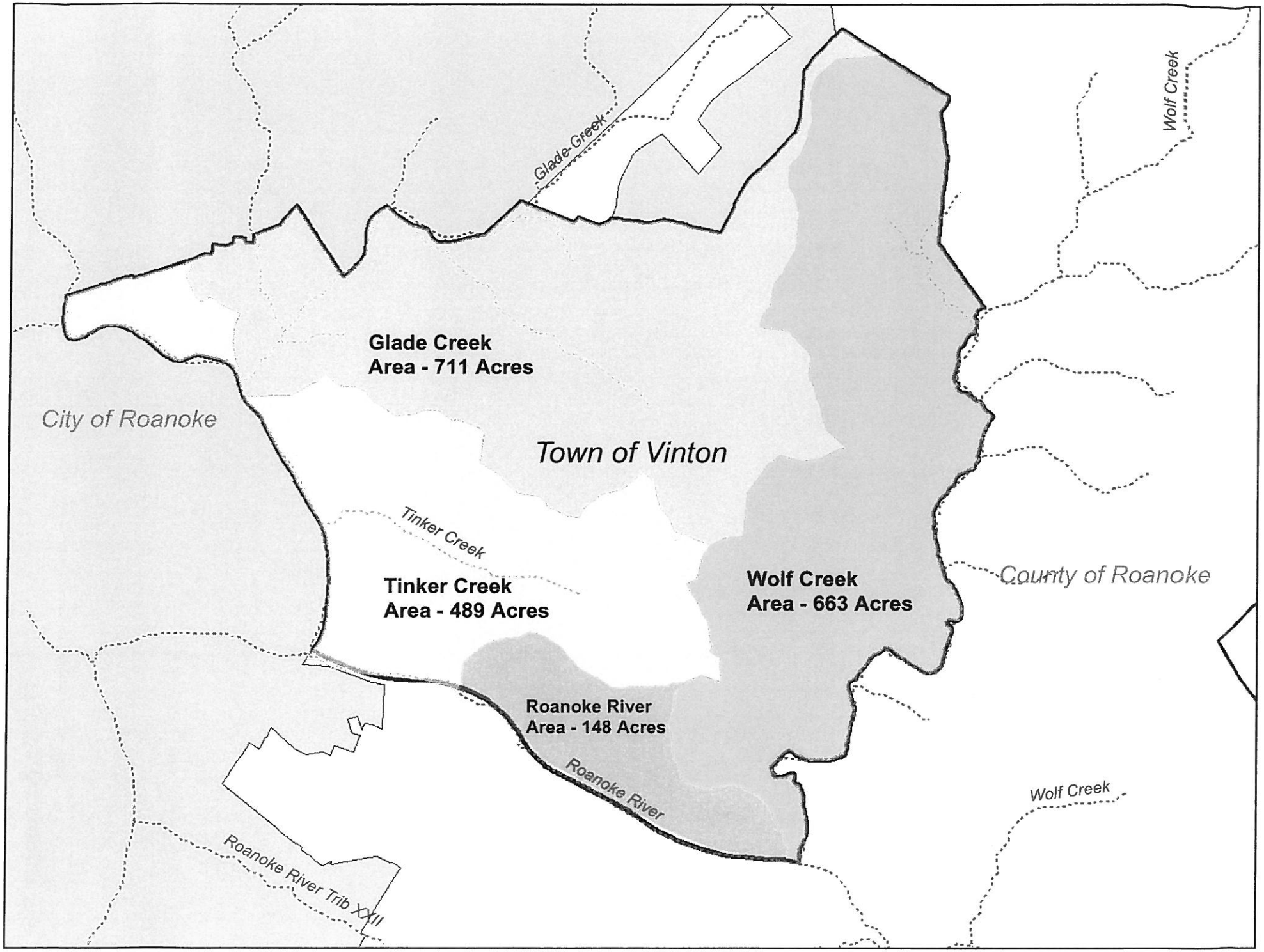
The Town supports and has been a part of the strong regional cooperation with Roanoke County, City of Roanoke, Western Virginia Water Authority, Roanoke Valley Resource Authority, and Roanoke Valley Greenway Commission in stormwater pollution prevention, the development of trails and greenways, and riparian buffer projects along the area waterways.

I appreciate your assistance with this program. Should you have any questions pertaining to this submittal, please contact me at (540) 983-0601 or by email at amcmillan@vintonva.gov.

Sincerely,

Anita J. McMillan
Planning and Zoning Director

Attachments
c: Christopher Lawrence, Town Manager
Michael Kennedy, Public Works Director


Glade Creek
Wolf Creek
Glade Creek
Area - 711 Acres
City of Roanoke
Town of Vinton
Tinker Creek
Tinker Creek
Area - 489 Acres
Wolf Creek
Area - 663 Acres
County of Roanoke
Roanoke River
Area - 148 Acres
Roanoke River
Wolf Creek
Roanoke River Trib XXIII

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

VSMP GENERAL PERMIT REGISTRATION STATEMENT FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS [VAR04]

(Please Type or Print All Information)
(The applicable fee specified in Form DCR 199-145 must additionally be submitted to the address given in that form to obtain coverage)

1. **Regulated Small MS4**

   Name: Town of Vinton VSMP # VAR040026

   Type: ☐ City ☐ County ☒ Incorporated Town ☐ Unincorporated Town ☐ College or University ☐ Local School Board ☐ Military Installation ☐ Transport System ☐ Federal or State Facility ☐ Other

   Location (County or City): Town of Vinton, Roanoke County, Virginia

2. **Regulated Small MS4 Operator**

   Name: Town of Vinton

   Address: 311 South Pollard Street

   City: Vinton State: Virginia Zip: 24179-2531 Phone: (540) 983-0607

3. **Hydrologic Unit Code(s) as identified in the most recent version of Virginia's 6th Order National Watershed Boundary Dataset currently receiving discharges or that have potential to receive discharges from the regulated small MS4:**

   HUCs: RU13 – Glade Creek and Tinker Creek and RU14 Wolf Creek and Roanoke River. Impaired Waters: Roanoke River (E-Coli and Sediment); Glade Creek (E-Coli), and Tinker Creek (E-Coli).

4. **Attach a description of the estimated drainage area, in acres, served by the regulated small MS4 discharging to any impaired receiving surface waters listed in the most recent Virginia 305(b)/303(d) Water Quality Assessment Integrated Report, and a description of the land use of each such drainage area.**

   SEE ATTACHED MAP and DESCRIPTION. Glade Creek Area – 711 Acres; Tinker Creek Area – 489 Acres; Wolf Creek Area – 663 Acres; and Roanoke River Area – 148 Acres.

5. **Any TMDL waste loads allocated to the regulated small MS4 (this information may be found at http://www.deq.state.va.us/tmdl/develop.html):** ***Tinker Creek Watershed*** (Carvin Creek, Glade Creek, Lick Run, Tinker Creek) Year Completed 2004, E-Coli WLA 4.29E+11 (colony forming units/yr); ***Roanoke River Watershed*** (Ore Branch, Roanoke River) Year Completed 2006, E-Coli WLA 3.32E+10 (colony forming units/yr); ***Roanoke River Watershed*** (Roanoke River) Year Completed 2006, Sediment WLA 128 (tons/yr).

6. **The name(s) of any regulated physically interconnected MS4s to which the regulated small MS4 discharges. County of Roanoke, City of Roanoke, and Virginia Department of Transportation (VDOT). See attached copies of notification.**

7. **A copy of the MS4 Program Plan that includes:** ***SEE ATTACHED.***

a. **A list of BMPs that the operator proposes to implement for each of the stormwater minimum control measures and their associated measurable goals pursuant to 4VAC50-60-1240, Section II B; that includes:**

   i. **A list of the existing policies, ordinances, schedules, inspection forms, written procedures, and other documents necessary for BMP implementation; and**

   ii. **The individual, department, division, or unit responsible for implementing the BMP;**

b. The objective and expected results of each BMP in meeting the measurable goals of the stormwater minimum control measures;

c. The implementation schedule including any interim milestones for the implementation of a proposed new BMP; and

d. The method that will be utilized to determine the effectiveness of each BMP and the program as a whole.

8. List all existing signed agreements between the operator and any applicable third parties where the operator has entered into an agreement in order to implement minimum control measures or portions of minimum control measures.

SEE ATTACHED.

9. The name, address, telephone number and e-mail address of either the principal executive officer or ranking elected official as defined in 4VAC50-60-370.

Christopher S. Lawrence, Town Manager, 311 South Pollard Street, Vinton, VA 24179, (540) 983-0607, clawrence@vintonva.gov.

10. The name, position title, address, telephone number and e-mail address of any duly authorized representative as defined in 4VAC50-60-370.

Anita J. McMillan, Planning and Zoning Director, 311 South Pollard Street, Vinton, VA 24179, (540) 983-0601, amcmillan@vintonva.gov.

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

Print Name: Christopher S. Lawrence Title: Town Manager

Signature: _____ Date: September 30, 2010

For Department of Conservation and Recreation Use Only

Accepted/Not Accepted by: _____ Date: _____

Basin _____ Stream Class _____ Section _____ Special Standards _____

TOWN OF VINTON
Virginia Pollutant Discharge Elimination System (VPDES) Phase II Report

Town of Vinton, Virginia

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT REGISTRATION STATEMENT
FOR STORM WATER DISCHARGES
FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

VPDES PERMIT NO. **VARO40026**

REPORTING PERIOD OF
JULY 1, 2009 – JUNE 30, 2010

SEPTEMBER 2010

Executive Summary

The Town of Vinton finds that the uncontrolled and polluted stormwater runoff to the Town's storm sewer system has an adverse impact on the water quality of the receiving waters. When left uncontrolled, this water pollution can result in the destruction of fish, wildlife, and aquatic life habitat; a loss in aesthetic value; and it threatens public health by contaminating food, drinking water supplies, and recreational waterways.

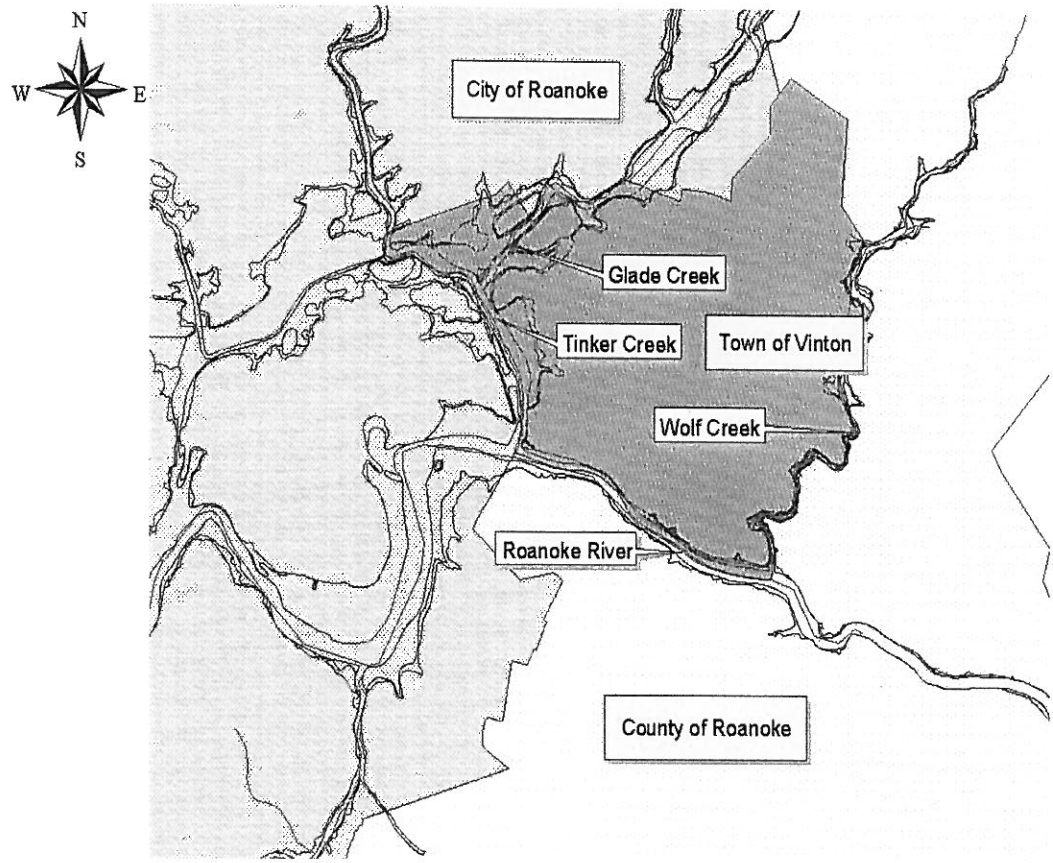
The Town is committed to continuing the development, implementation, and enforcement of its Municipal Separate Storm Sewer System (MS4) Program that is designed to reduce the discharge of pollutants from the regulated MS4 and to addressing impaired waters that the MS4 discharges into to the maximum extent practicable (MEP). The main goal of this program is to protect water quality, and to improve waters into which the regulated small MS4 discharges. This program is also designed to meet the appropriate water quality requirements of the Clean Water Act (CWA), Virginia Stormwater Management Act, and associated regulations.

The Town's stormwater management program includes the six minimum control measures (MCMs) practices:

1. Public education and outreach on stormwater impacts;
2. Public participation and involvement;
3. Illicit discharge detection and elimination;
4. Construction site stormwater runoff control;
5. Post-construction stormwater management in new development and redevelopment; and
6. Pollution prevention and good housekeeping for municipal operations.

The Town's commitment to establish and sustain a comprehensive program that protects the Town's stormwater quality to the maximum extent practicable has been made. Strong regional cooperation has been pursued since the VPDES Phase II permit was in place in 2003 for the implementation of the minimum control measures practices. The Town intends to continue its participation in regional efforts to educate the general public and developers. These efforts are in cooperation with Roanoke County and City of Roanoke, and other regional organizations such as the Clean Valley Council (CVC), Roanoke Valley Resource Authority (RVRA), Roanoke Valley Television (RVTV) Channel 3, Roanoke Valley Alleghany Regional Commission (RVARC), Upper Roanoke River Roundtable (URRR), Roanoke Valley Greenway Commission, Roanoke Valley Urban Forestry Council (RVUFC), Western Virginia Water Authority, and Western Virginia Land Trust. Strong regional cooperation is instrumental in minimizing pollutants in the Roanoke River, creeks and streams, and providing Roanoke Valley citizens with clean water now and into the future.

The Town of Vinton's Physically Interconnected MS4's to which It Discharges



Receiving Waters for the Town of Vinton, Virginia

The Town is located in Roanoke County, bordered on its western and northern limits by the City of Roanoke. To the east, lie Roanoke County and the Blue Ridge Parkway. The southern border lies along the Roanoke River. The northwest and west portions of the Town are bordered by Glade Creek and Tinker Creek. The eastern portion is bordered by Wolf Creek. The Town has a population of 7,782, contains 3.2 square miles in area, 90 miles of roadways and the stormwater outfalls discharging to the waters of the state: Glade Creek, Tinker Creek, Wolf Creek and Roanoke River, see Figure 1.

The Town owns and maintains its roadway systems, solid waste collection operation, and provides water and sewer system services to both Town and East Roanoke County residents. The Town pumps its sewage to the Roanoke Regional Wastewater Treatment Plant located in Roanoke City. The Town owns and operates its water system, which uses a series of thirteen wells drawing ground water from the Falling Creek Aquifer.

The Town transports its solid waste to Tinker Creek Transfer Station, which is owned and operated by the Roanoke Valley Resource Authority (RVRA) and funded by the City of Roanoke, County of Roanoke, and Town of Vinton.

Watershed Summary

This section details a list of all known waters currently receiving discharges or that have potential to receive discharges from the regulated small MS4. The following Table 1 lists the waterways and the Hydrologic Unit Codes (HUC) as identified in the most recent version of the Virginia's 6th Order National Watershed Boundary Dataset and the estimated drainage areas in the Town of Vinton, served by the regulated small MS4 discharging to these surface waters.

Table 1: Town of Vinton Watersheds HUC's, Impaired Receiving Waters, and Drainage Areas inside Town of Vinton

Watershed	Hydrologic Unit	Impaired Receiving Waters	Drainage Area (Estimated in Acres)
Glade Creek	RU13	Glade Creek	711
Roanoke River	RU14	Roanoke River	148
Tinker Creek	RU13	Tinker Creek	489
Wolf Creek	RU14	-	663

Table 2: Wasteload Allocations for the Town of Vinton Watershed with Completed TMDL's

TMDL Waterways and Impaired Tributaries	Year Completed	Parameter	WLA
Tinker Creek Watershed	2004	E-Coli	4.29E+11 (colony forming units/yr)
Carvin Creek Glade Creek Lick Run Tinker Creek			
Roanoke River Watershed	2006	E-Coli	3.32E+10 (colony forming units/yr)
Ore Branch Roanoke River			
Roanoke River Watershed	2006	Sediment	128 (tons/yr)
Roanoke River			

Source: Department of Environmental Quality List of Approved TMDL Reports at https://www.deq.virginia.gov/TMDLDataSearch/ReportSearch.jspx;jsessionid=6CB8AE0F4A8504C9063C68B49A3A639

MCM 1: PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

The Town of Vinton, Roanoke County, and City of Roanoke entered into a contract agreement with Clean Valley Council (CVC), Inc., in August 2006 to help fulfill most of the Best Management Practices (BMPs) within the MCM 1 and MCM 2. The MCM 1 is intended to implement a public education program to distribute and make available educational materials to the community and conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

A mix of best management practices (BMPs) has been chosen to target school children through outreach programs in the Roanoke County School System which include the Town of Vinton. Homeowners, restaurateurs, industries and the general public will also be targeted through wastewater education, public forums, and Save Our Streams (SOS) field days.

A list of programs or BMPs to meet these educational, and outreach measures is:

BMP 1-1:	Comprehensive Review and Inventory of Available Stormwater Educational Resources and Programs.
BMP 1-2:	Development and Distribution of Stormwater Educational Materials for Town Residents and Businesses.
BMP 1-3:	Development and Implementation of Stormwater Educational School Programs – Different Programs for Age Appropriate Grade Level.
BMP 1-4:	Stormwater Public Awareness Programs to Promote the Importance of Protecting Stormwater Quality.
BMP 1-5:	Town of Vinton Webpage where Citizens Can Obtain Information Concerning the Town's Stormwater Management Program, Ordinances, Design Guidelines, Contact Information, Educational Programs, and Links to Other Organizations and Web Sites.

BMP 1-1. Comprehensive Review and Inventory of Available Stormwater Educational Resources and Programs.

The Town continues to update and distribute a list of current publications, educational programs, websites, videos, maps, and training opportunities that directly address stomwater issues such as stormwater management, stormwater quality, impaired water bodies, floodplain management, pollution prevention, conservation practices, and riparian habitat protection. The review is located online on the Town's website (www.vintonva.gov) under the "Town of Vinton Resource List" heading.

BMP 1-2. Development and Distribution of Stormwater Educational Materials for Town Residents and Businesses.

Stormwater educational materials were given out to students and adults through school outreach programs and Earth Summit for high school students and teachers; and community special events such as Vinton Dogwood Festival, Earth Day Celebration, Energy Expo, Roanoke Regional

Home Show, Fall Waterways Clean-up Picnic; and select locations including the Vinton Municipal Building and Roanoke County Vinton Branch Library.

The Town provides its citizens an annual calendar in early December of each year. The 2010 calendar, which was distributed in December 2009 to every household in the Town's limits, provided information on stormwater, special refuse pick-ups, household hazardous waste collection, and recycling collections. The calendar also lists environmental events in the Town and Roanoke Valley.

The Town along with Roanoke County, City of Roanoke, and Clean Valley Council will continue to develop educational material. The material will be designed as a regional document and will touch on the stormwater program, general stormwater quality education, updates of local impaired water bodies, and TMDL's. It will be based on the unique issues and concerns for the Roanoke River Watershed. The Town will to continue to educate residents and businesses on the Town's stormwater program through educational materials and will post a version of the materials on its website for additional outreach.

BMP 1-3. Development and Implementation of Stormwater Educational School Programs – Different Programs for Age Appropriate Grade Levels.

Clean Valley Council (CVC), Inc., educators under the direction of the Town, County of Roanoke, and City of Roanoke, have been and will continue developing and providing programs addressing stormwater quality issues at public and private schools. Different programs will target appropriate grade levels and will be SOL correlated. Additionally, the Western Virginia Water Authority has also developed outreach programs for elementary, middle, and high schools in the Roanoke Valley.

In conjunction with these school programs, the CVC also holds an annual Earth Summit, in which select seniors and juniors from area high schools attend environmental workshops and lectures. The Town believes that this program is successful in teaching school children about stormwater issues and the benefits of healthy water bodies.

For 2009-2010 reporting period, CVC educators presented 861 school programs to a total of 21,768 students and distributed 14,609 educational materials. The Town proposes to continue this program for the next reporting cycle.

BMP 1-4. Stormwater Public Awareness Programs to Promote the Importance of Protecting Stormwater Quality.

A Stormwater Public Awareness Program continues to be developed including the distribution of stormwater merchandise, public service announcements, and other high visibility educational media to utilize social mass marketing methods to bring stormwater quality issues to the attention of the Town's citizens.

The Town, in conjunction with Roanoke County, City of Roanoke, and CVC, developed and distributed flyers, fact sheets, pens, and magnets promoting the importance of stormwater quality to the citizens.

For the Annual Fall Waterways Clean-up Event held throughout the Roanoke Valley, an advertisement regarding the event was played at the Grandin Theater for the whole month prior to the event, which falls on the first Saturday in October, from 8:30 a.m. to 11:30 a.m. After the clean-up event, volunteers were invited for a free lunch, music, and environmental exhibitions from 11:30 a.m. to 2:00 p.m. The event was also advertised in The Roanoke Times, Roanoke Natural Food Coop newsletter, WDBJ Channel 7 TV Station, Roanoke Star Sentinel, and Bella Magazine.

The Town proposes to combine the promotional merchandise BMP with the public service announcement BMP to create a Public Awareness Program that will incorporate the distribution of stormwater merchandise, the creation of public service announcements, and working with local TV news networks to cover stormwater issues in the news media, as well as other high-visibility educational media to bring stormwater quality issues to the attention of Town citizens.

BMP 1-5. Town of Vinton Webpage where Citizens Can Obtain Information Concerning the Town's Stormwater Management Program, Ordinances, Design Guidelines, Contact Information, Educational Programs, and Links to Other Organizations and Web Sites.

Continue to maintain and monitor the Town's Stormwater webpage, where citizens and visitors can obtain information concerning the Town's Stormwater Management Program, ordinances, design guidelines, general and contact information, pollution prevention information, educational programs, list of impaired water bodies, and links to other organizations and sites. The website will also inform citizens of regional clean-up events, household hazardous waste and electronic collection events, and other local water quality educational programs. Additional information pertaining stormwater will be added with the launching of the Town's new website scheduled for November 2010.

MCM 2: PUBLIC PARTICIPATION AND INVOLVEMENT

The Town of Vinton in conjunction with Roanoke County, City of Roanoke, Botetourt County, Clean Valley Council (CVC), Inc., Roanoke Valley Resource Authority (RVRA), Upper Roanoke Roundtable Committee, and Roanoke Valley Greenway Commission will continue to have the community involved with clean-up projects along local streams and riparian corridors through the annual Spring Clean Valley Day and Fall Waterways Clean-up. The Town will also continue to hold its annual Special Spring Cleanup Week, where citizens are allowed to dispose of bulk items on the curb on their regular refuse collection day at no extra charge. Bulk items include unused/unwanted furniture, appliances, brush and lawn trimmings.

This control measure is intended to implement programs that help inform and educate Town citizens about the components of the stormwater management program. Support from citizens is crucial for the success of the stormwater management plan. To get the citizens'

support, the Town has and will continue to coordinate several programs to engage citizens' interest in stormwater quality as listed:

BMP 2-1:	A Stormwater Stenciling Program with Area Schools, Organizations, and Businesses to Engage Group Involvement and Educate People about the Consequences of Dumping Waste into the Storm Drain System.
BMP 2-2:	Clean-up and Environmental Events to Bring Attention to Current Stormwater Issues.
BMP 2-3:	Citizens' Stormwater Advisory Committee to Provide an Approachable Environment where Ideas and Concerns Regarding the Town's Stormwater Program may be Shared and Discussed on a Regional Level.
BMP 2-4:	Staff and Town-Appointed Citizens' Representatives Environmental Related Regional Organizations.
BMP 2-5:	Post Town's Stormwater Discharge Permit and Annual Report on the Town's website for Citizen Access.

BMP 2-1. A Stormwater Stenciling Program with Area Schools, Organizations, and Businesses with the Goal of Stenciling Storm Drains throughout the Town.

The Town, in conjunction with Clean Valley Council, will continue to coordinate a storm drain stenciling program with local schools, neighborhoods, businesses, and other organizations, to stencil messages on storm drains that educate people about the consequences of dumping waste into the storm drain system.

The Town proposes to continue with the implementation of this BMP and will continue to coordinate this program that will stencil at least 20 percent of the storm drains per year within the Town. The Town will document the stenciling of the storm drains.

BMP 2-2. Clean-up and Environmental Events to Bring Attention to Current Stormwater Issues.

Town Staff continues to be involved in the coordination of regional clean-up and environmental events such as the annual Spring Clean Valley Day and Fall Waterways Clean-up Day; Household Hazardous Waste and Electronic Waste Collection events; public forum on environmental issues related to water quality and impaired water bodies; Town's Spring Clean-up Week; and events on the on the area greenways .

The Town coordinated with CVC, Roanoke County, and City of Roanoke to conduct public forum meetings in conjunction of the Fall Waterways Clean-up Event, describing what the three localities (Town, City, and County) were doing concerning stormwater management issues. The meetings allowed for input and concerns to be received on stormwater issues. After evaluating the success, these three Valley governments believe that combining the forum with a stormwater and/or other environmental events would improve the effectiveness of the BMP by increasing public attendance.

The Town will continue to publicize its curbside recycling program and fund the recycling collection center at the Lake Drive Plaza Shopping Center in its efforts to increase awareness about the importance of recycling. The Town will continue its Spring Special Cleanup Week Program and participation in the Annual Clean Valley Day, Fall Waterways Clean-up Day, and Earth Day. Town staff and Town-appointed citizens are also board members of the RVRA, CVC, Roanoke Valley Greenway Commission, and Roanoke Valley Alleghany Regional Commission (RVARC), which enables special environmental events and projects to be done regionally to reduce costs and reach a wider audience.

The Town proposes to continue to implement this BMP to address stormwater issues including impairment to the water bodies and the Town's progress towards stormwater quality improvements. The Town will document the events, levels of participation, and attendance. Using attendance as an indicator, the Town will evaluate the effectiveness of this BMP.

On July 1, 2009, a permanent household hazardous waste facility was made available at the Roanoke Valley Resource Authority (RVRA). The facility is open on the third Saturday of each month, giving citizens in the Roanoke Valley opportunities to dispose of their hazardous materials year-round rather than during three regional collection events offered in the past. For FY 2009-2010, RVRA collected 1,007 gallons of oil, 101 batteries, and 5,144 gallons of latex paint from 1,331 residential households from Roanoke County, City of Roanoke, and Town of Vinton.

The Roanoke Valley Fall Waterways Clean-up Day was held on October 3, 2009, and 32 teams comprised of 507 volunteers collected about 21.21 tons of waste and 57 tires. The 2010 Annual Clean Valley Day was held on Saturday, March 27, 2010. There were six groups with a total of 131 volunteers registered to clean-up in the Town. A total of 115 bags of litter, 54 tires and other bulk items with a total tonnage of 1.88 tons were collected in the Town. The Town of Vinton's Spring Special Clean-up Week was held from April 12th through April 16th, 2010.

The Town 2010 Arbor Day Celebration and Tree Planting Event was held on April 15, 2010, at the Vinton Public Works Department. Seven red maple trees were planted on the grounds of the Vinton Public Works Department. The Arbor Day event was well received and attended by Vinton elected officials and personnel; members of Valley Beautiful, Inc.; and 30 students, parents, and staff from Herman L. Horn Elementary School.

The Roanoke Valley Earth Day was held on April 17, 2010, where Earth Day activities were held at the Roanoke Natural Foods Co-op; a free Earth Day Film was shown at the Grandin Theater; over 20 exhibitors of the local environmental groups and free outdoor music at Grandin Gardens; and a free outdoor evening concert at Virginia Heights Baptist Church.

On April 17, 2010, in conjunction of Valley-wide Earth Day, the Town in partnership with Roanoke Chapter of Trout Unlimited, Orvis, and Upper Roanoke River Roundtable undertook Glade Creek Riparian Tree Planting Project. A total of 37 volunteers planted 350 native trees and shrubs on town-owned properties located along Glade Creek. The goal of the Project is to protect Glade Creek and increase tree canopy as part of a valley-wide goal of achieving a healthy urban system by providing a riparian buffer along the creek.

BMP 2-3. Citizen's Stormwater Advisory Committee to Provide an Approachable Environment where Ideas and Concerns Regarding the Town's Stormwater Program may be Shared and Discussed on a Regional Level.

A group of citizens who meet with local stormwater management staff to review ordinances, TMDL's issues, local projects, informational materials and educational components of the Stormwater Management Program has been established from the first permit cycle. This group continues to provide an approachable environment where ideas and concerns regarding the Town's stormwater program may be discussed and shared.

The Regional Stormwater Advisory Committee met on August 26, 2009; May 24, 2010, and June 22, 2010. The Committee will continue to meet with other representatives from Roanoke County and City of Roanoke three times a year to be updated on stormwater issues and to review educational and informational material components of the stormwater program.

BMP 2-4. Staff and Town Representatives Environmental Related Regional Organizations.

The Town continues to have staff and/or Town citizens serve on the regional organizations such as Roanoke Valley Alleghany Regional Commission (RVARC), Clean Valley Council (CVC), Inc., Roanoke Valley Greenway Commission, Roanoke Valley Urban Forestry Council, Roanoke Valley Resource Authority (RVRA), and Western Virginia Water Authority (WVWA).

The Town will continue to have staff and/or citizen representatives on these regional organizations to enable Town's participation in regional events and projects, and to increase wider involvement in environmental and stormwater quality issues. The Town will document the name of the organizations, regional events taking place, and levels of participation.

BMP 2-5. Post Town's Stormwater Discharge Permit and Annual Report on the Town's website for Citizens' Access.

The Town continues to post the Town's Municipal Separate Storm Sewer Systems (MS4) Program on the Town's website which citizens may view and comment upon. This form of public viewing will allow Town citizens to become knowledgeable about the goals of the program and have information with which to comment on existing issues and influence changes in future programs. Each annual report as required will be posted on the website to keep citizens current on annual evaluations of the program's effectiveness and any proposed changes to the stormwater program.

The Town will continue to post the MS4 permit application and each subsequent annual report submitted to Department of Conservation and Recreation (DCR). The permit application will be posted no more than 30 days after the Town receives permit approval and coverage from DCR. Each annual report will be posted no more than 30 days after annual renewal date. The Town will be launching a new website, scheduled for November 2010.

MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

The goal of the illicit connection and discharge elimination plan is to inspect known stormwater outfalls to Tinker, Glade, and Wolf Creeks and the Roanoke River as identified through review of existing storm sewer maps; eliminate illicit discharges as they are identified through visual monitoring of known stormwater outfalls; and field observations to identify and verify additional stormwater outfalls that may not have been identified through review of existing storm sewer maps. The programs that have been put in place to complete this measure are:

BMP 3-1:	A Town-wide Storm Sewer System Map in the GIS Database.
BMP 3-2:	Illicit Discharge Ordinance to Detect, Identify, and Enforce Illicit Discharges.
BMP 3-3	Illicit Discharge Program to Minimize Illicit Discharges as defined under VSMP General Permit 4VAC50-60-10, as amended.

BMP 3-1. A Town-wide Storm Sewer System Map in the GIS Database.

Currently, the Town is still working with an engineering firm on retention to update the existing GIS database. The Town proposes to continue this program by expanding and updating the storm sewer map of the Town. In addition to locating any storm sewer outfalls, the map will also update the existing map to show the current outfalls and their associated Hydrologic Unit Code (HUC) of the waters that are being discharged to, and the names and locations of all the impaired surface waters that receive discharges from these systems. The Town will also estimate the acreage within the regulated storm sewer system discharging to each outfall.

BMP 3-2. Illicit Discharge Ordinance to Detect, Identify, and Enforce Illicit Discharges.

The Town has established a program to detect and eliminate illicit discharges in the Town's storm sewer system by developing and adopting ordinances and regulations, and an enforcement program to minimize illicit discharges and prevent illegal discharges into the storm drain system.

Vinton Public Works Department reported 27 sanitary sewer overflows to Department of Environmental Quality for the reporting period of July 1, 2009 through June 30, 2010. The Town Niagara Road Sewer Pump Station Improvement Project was completed and back on line in August 2010.

BMP 3-3. Illicit Discharge Program to Minimize Illicit Discharges as defined under VSMP General Permit 4VAC50-60-10, as Amended.

The Town will continue to develop, implement, and enforce a program to detect and eliminate illicit discharges in the Town's storm sewer system. The Illicit Discharge Program will include the following components:

1. Procedures for locating priority areas likely to have illicit discharges.
2. Procedures for tracing the source of an illicit discharge.

3. Procedures for removing the source of the discharge.
4. Procedures for program evaluation and assessment.
5. Procedures for reporting discharges into the Town's storm sewer system.

The Town proposes to continue this effort by working with Roanoke County staff to develop procedures to detect, address, and report illicit discharges that enter the Town's storm sewer system.

MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

*** The implementation of this MCM and its associated BMPs will be the responsibility of Roanoke County Department of Community Development in conjunction with Vinton Planning and Zoning Department.**

Since February 14, 1984, the County of Roanoke has been responsible for the Erosion and Sediment Control program for the entire County area, including the Town of Vinton. On April 3, 2007, the Vinton Town Council adopted Ordinance No. 847 to amend the Vinton Town Code by the adoption of Chapter 15.1 known as the "Erosion and Sediment Control and Steep Slope Development of the Town of Vinton", by referencing County of Roanoke Code, Chapter 8.1. Erosion and Sediment Control and Steep Development, as amended.

The Town and County recognize that construction sites can deposit significant amounts of silt and sediment in stormwater runoff due to large areas of land disturbances. The goal of this MCM is to implement and enforce a program that will reduce pollutants in stormwater runoff to the regulated municipal separate storm sewer system from construction sites and activities. The programs that have been established by the County and supported by the Town to meet this MCM measure are listed below:

BMP 4-1:	Erosion and Sediment Control (ESC) Ordinance to Require Erosion and Sediment Control Plan for any Land Disturbance Greater than 2,500 Square Feet or More.
BMP 4-2:	ESC Ordinance Includes Requirements of Construction Site Operators to Implement Appropriate ESC Best Management Practices (BMPs).
BMP 4-3:	Site Plan Review Procedures that Incorporate Consideration of Potential Water Quality Impacts, Consideration for Information Provided by the Public, and Site Inspection and Enforcement Procedures.

Town Staff continues to work cooperatively with Roanoke County in the implementation of this measure including: the review of the County's ESC ordinance; notification of any land disturbance without any permit; site and subdivision plans review process; and in the issuance of any land disturbance permit in the Town Limits.

Any proposed development, re-development, and/or addition meeting certain criteria will require site plans be submitted for review and approval as stated in the County's and Town's codes. The site plans must be submitted to the Planning and Zoning Department and be distributed to appropriate persons for comments and review.

The Planning and Zoning Director, who is also serves as the Town's Development Review Coordinator, is responsible for the review coordination, including providing written comments pertaining site plans received from applicable departments and state agencies. The Town's engineering firm on retention is responsible for the review of the stormwater management requirements. **Section 23-5.3 Water Quality**, of the stormwater ordinance, states the criterion that must be addressed for stormwater management at all land-disturbing activities.

The property owner/developer is also notified by the Development Review Coordinator in writing that the Department of Conservation and Recreation (DCR) requires that any land disturbance of one (1) acre or greater obtain a Virginia Stormwater Management Program (VSMP) permit through the DCR office. The VSMP permit must be applied for two (2) days prior to any land disturbance on the property. A copy of the application, the check, and the Stormwater Pollution Prevention Plan (SWPPP) must be submitted to the Town of Vinton Planning and Zoning Department.

MCM 5: POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

The Town and Roanoke County recognize that addressing water quality in post construction runoff is an important way to prevent deposition of sediment and other pollutants into our streams and river. The programs that continue to be established to complete this measure are listed below:

BMP 5-1: Stormwater Management Facility Inspection Program.
BMP 5-2: Low Impact Development (LID) Principles, Techniques, and Strategies.

The Town will work with Roanoke County and City of Roanoke to develop programs to address the post-construction runoff with structural and nonstructural BMPs on a regional level to address the stormwater quality and impairment of water bodies.

BMP 5-1. Stormwater Management Facility Inspection Program.

The Town has and will continue to work with Roanoke County in the development of the inspection program. An inspection form has been developed and is being used. Beginning January 2009, a revised Stormwater Management/BMP Facilities Maintenance Agreement has to be completed and recorded for any development that requires a stormwater facility. The developer is also required to submit a stormwater management and BMP facilities maintenance schedule.

BMP 5-2. Low Impact Development (LID) Principles, Techniques, and Strategies.

The Town Development Review Coordinator will work with personnel from the engineering firm on retention to identify and encourage development projects that utilize Low Impact Development (LID) principles, techniques, and strategies. The Town will be updating its zoning and subdivision ordinances in the near future to incorporate LID principles, techniques, and strategies.

MCM 6: POLLUTION PREVENTION/GOOD HOUSEKEEPING

The main goal of the pollution prevention and good housekeeping program is to reduce pollutant runoff from the Town's operations. The Town needs to continue to evaluate its facilities and also provide education and training programs that will educate Town employees about pollution prevention and hazardous waste. The programs that continue to be established to meet this measure are listed below.

BMP 6-1:	Develop Spill Prevention and Control Plans for the Town Facilities.
BMP 6-2:	Continue to Develop a Program for the Maintenance of Storm Sewer Systems.
BMP 6-3:	Continue to Maintain and Enhance Public Street Sweeping and Lead Collection Programs
BMP 6-4:	Continue to Develop and Provide Pollution Prevention and Hazardous Waste Training.

BMP 6-1. Develop Spill Prevention and Control Plans for the Town Facilities.

The Town will continue to develop and update Spill Prevention and Control Plans for all of the Town's municipal facilities. Each facility will be evaluated for the potential of illicit discharges from storage yards, outdoor storage areas, waste transfer stations, fleet or maintenance shops and other municipal facilities. The disposal method for waste materials will be evaluated. Soluble or erodible materials will be analyzed and protected from exposure to precipitation. The application of fertilizers and pesticides will be examined to meet manufacturer's recommendations. Any operation that has potential to discharge material into the separate storm sewer system will be examined for potential unwanted discharge. These plans will be updated and annual training will be completed.

The plans for an accidental spill at any of these sites would include a normal response by the Vinton Fire Department for containment. Then it will be turned over to a private hazardous waste material contractor, either LCM or WEL, for clean-up. Notification will be sent to VDEM, DEQ, and DCR.

The Town proposes to update these spill prevention plans and create new plans for any new facilities. Training for associated facilities will be performed for the Town employees affected by the spill prevention plan.

BMP 6-2. Continue to Develop a Program for the Maintenance of Storm Sewer Systems.

Vinton Public Works Department continues to actively maintain the Town's storm sewer system. Keeping the storm sewer system properly maintained is very important for the Town because it keeps the regulated storm sewer working as designed, minimizing the potential for flows to surcharge or surpass the capacity of the regulated storm sewer system. The maintenance crews also have the potential of discovering illicit connections and additional areas where hazardous waste may be entering the system.

The success of this BMP will be measured by the continuation of this program and the increase in total value of improvements that have been completed to maintain the storm sewer system. The following table summarizes the Public Works Department's total expenditures for labor, materials, and equipment to maintain the stormwater system to correct deficiencies for July 1, 2009, through June 30, 2010. Repairs are performed within available funds budgeted for this purpose.

Reporting Period	Work Hours	Total Labor	Materials	Total Equipment
07/01/09 to 06/30/10	2,070	$56,661.46	$13,147.58	$20,898.27

BMP 6-3. Continue to Maintain and Enhance Public Street Sweeping Program and Leaf Collection Programs

The Vinton Public Works Department maintains an effective street sweeping program to target weekly sweeping of all primary streets that will return the greatest benefit of collecting and thus preventing roadway contaminants, sediment and debris, from entering the stormwater collection system. Other streets are swept bi-weekly or at three week intervals. This continues to optimize both the use and effectiveness of our single street sweeper and achieves desired results. The sweeping hours spent on street sweeping were 1,207 hours at rate of $63.77, with a total expense of $76,970.39. The total cost of the leaf collection program for the reporting period of July 1, 2009 through June 30, 2010 was $15,707.62.

Reporting Period	Street lane-miles swept
07/01/09 to 06/30/10	2,478

BMP. 6-4. Develop and Maintain Pollution Prevention and Hazardous Waste Training Programs for Town Employees

The Town considers this BMP to be successful and proposes to continue with this program. Due to budget cut and the loss of Human Resources Director, the Town was not able to have stormwater training for the reporting period of July 1, 2009 through June 30, 2010.

The Town will update the pollution prevention and hazardous waste training for Town employees. The total number of new employees to receive training will be documented in addition to the total number of employees trained to date.

TOWN OF VINTON
Virginia Pollutant Discharge Elimination System (VPDES) Phase II Report

VSMP PERMIT NO. **VARO40026**

REPORTING PERIOD OF JULY 1, 2009 – JUNE 30, 2010

SUPPORTING MATERIALS

Clean Valley Council's 2009-2010 Outreach Report
Public & Private School's of the Roanoke Valley
Linda Barker & Beth Walton – Environmental Educators

Total # of Students Reached: 21,768
Total # of Programs Presented: 861
Total Materials Distributed: 14,609
Total # of Days/Outreach Visits: 309
Total # of Schools Visited: 65
Localities Covered: Botetourt County, City of Roanoke, Roanoke County, Town of Vinton, City of Salem

Botetourt County - 8 Schools 111 Programs/2,911 Students

Breckinridge	Greenfield
Buchanan	Troutville
Central Academy MS	
Cloverdale	
Colonial	
Eagle Rock	

Roanoke City - 23 Schools 312 Programs/6,612

Addison MS	James Madison MS	Westside
Crystal Spring	Lincoln Terrace	William Fleming HS
Fairview	Monterey	Woodrow Wilson MS
Fallon Park	Morningside	
Fishburn	Patrick Henry HS	
Garden City	Preston Park	
Grandin Court	Roanoke Academy	
Highland Park	Round Hill Montessori	
Huff Lane	Virginia Heights	
Hurt Park	Wasena	

Roanoke County - 23 Schools 340 Programs/9,522

Back Creek	Fort Lewis (Salem)	
Bent Mountain	Glenvar (Salem)	Mason's Cove
Bonsack	Glenvar HS	Mt. Pleasant
Burlington	Glenvar MS	Northside HS
Cave Spring	Green Valley	Northside MS
Cave Spring HS		Oak Grove
Cave Spring MS	Herman Horn (Vinton)	Penn Forest
Central MS	Hidden Valley HS	William Byrd MS (Vinton)
Clearbrook	Hidden Valley MS	William Byrd HS (Vinton)

City of Salem - 5 Schools 62 Programs/1,784 Students

Andrew Lewis MS	
East Salem	South Salem
G.W. Craver	West Salem

Private - 1 Schools 32 Programs/441 Students

North Cross	

Church Schools - 5 Schools 5 Programs/388 Students

Church Court day Nursery & K	
Church School	
Life Academy	
New Life Christian Academy	
Roanoke Catholic School	

Miscellaneous Outreach Programs

Girl Scouts	Blue Ridge Mountains Scout Camp
Hollins University	Geofest
Quest	

Roanoke Valley High School's Earth Summit for Juniors and Seniors
Attendees: 99 Students, 10 Teachers

High Schools Attending - 7 Schools

Northside	James River
North Cross	Salem
Patrick Henry	
Lord Botetourt	
William Byrd	

Clean Valley Council, Inc., Outreach Programs
Elementary School
Look for New Programs!

Preschool or Kindergarten (30 to 45 minutes)

New! Let's Recycle!
(Science SOL: K.1, K.9, K10)
Readings from books like Michael Recycle, The Day the Trash Came Out to Play, Johnny Green and the Little Green Man, or All the Way to the Ocean will help students learn about recycling, how it works, why it's important, and what they can do to help. Mr. Rogers Goes to the Recycling Center video is also available. Trash can be harmful when it's not where it belongs.
Vocabulary Introduced: Litter, Reduce, Reuse, Recycle, Conserve and Resources
Equipment needed: VCR/ DVD player

Rigsby's Cleanup Surprise
(Science SOL K.9, K.10, & Civics SOL K.7)
Students will identify differences between natural and human-made objects. They will recognize that they have control over litter. Students investigate a park that's been littered and meet "Rigsby", the Raccoon, who teaches the harm that litter brings to all of his park pals. They will learn what kinds of litter can be recycled.
Vocabulary Introduced: Litter, Natural Objects, Man-made Objects and Recycling
Equipment needed: None

Who Polluted the River?
(Science SOL K.10, 1.8, 2.5, 2.7, 3.9, 3.10, 3.11) ***Can be adapted for grades K – 3***
Students will identify sources of pollution and how they get into the river. A pickle jar is used to represent the river, and students help "pollute" the river. Prevention of water pollution is discussed, to include recycling, reusing, and reducing waste.
Vocabulary Introduced: Litter, Natural Objects, Man Made Objects and Recycling
(For grades 2-3: Pollution, Acid Rain, Sewage, Pesticides and Fertilizer)
Equipment needed: None

Grade 1 (45 minutes)

Think Earth
(Science SOL 1.8 Economics 1.10,1.11)
Students identify natural resources which are found in the Greater Roanoke Valley and consider ways that they can personally reduce consumption of these resources.
Vocabulary Introduced: Natural Resources and Conservation
Equipment needed: VCR

Wartville Wizard
(Science SOL 1.8, Economics 1.10,1.11)
Students will identify the components of a community: human resources, natural resources, capital resources used to produce goods. A 35-mm slide story explores litter as being an undesirable component.
Vocabulary Introduced: Community and Litter
Equipment needed: Projection Screen, Cassette Player

The Truth about Trash
(Science SOL 1.8)
Students will discover that trash has better uses than just throwing it in the "regular" trash can. Using the book "A Pig Tale" or Pokemon posters, and a bag of collected trash, students will find better uses for trash. Interactive activity: Using plastic drink bottles, students will create toys from trash.
Vocabulary Introduced: Litter, Solid Waste, Recycle, Reuse, Reduce and Natural Resources
Equipment needed: By teacher: half sheet construction paper, google eyes, pom poms, pipe cleaners, extra construction paper, glue, tape, plastic drink bottles.

Travelin' Trash
(Science SOL K.5, 1.8, 2.5, 3.6, 3.10) ***Can be adapted for grades K–3.***
Students will see a series of activities that demonstrate the characteristics of marine debris, and how these characteristics affect where marine debris is found in the environment. Students will determine whether or not trash can float, be moved by the wind, or be washed away.
Vocabulary Introduced: Buoyant and Marine Debris
Equipment needed: None

Grade 2 (45 minutes)

Kids-Eye View
(Science SOL 2.5, 2.8)
Students will define ECOLOGY and will focus on ways in which they can care for their environment. A list of "25 Things Kids Can Do" is part of the program.
Vocabulary Introduced: Ecology and Environment
Equipment needed: VCR

The Lorax
(Science SOL K.5, 2.5, 2.8, 3.6, 3.10)
Students will listen to Dr. Seuss' story "The Lorax" to learn about the human effects on animals and the environment. They will recognize that they have control over their consumption of natural resources.
Vocabulary Introduced: Conservation, Environment, Ecology, Natural Resources and Pollution
Equipment needed: VCR

Travelin' Trash
(Science SOL K.5, 1.8, 2.5, 3.6, 3.10) ***Can be adapted for grades K–3.***
Students will see a series of activities that demonstrate the characteristics of marine debris, and how these characteristics affect where marine debris is found in the environment. Students will determine whether or not trash can float, be moved by the wind, or be washed away.
Vocabulary Introduced: Buoyant and Marine Debris
Equipment needed: None

The Green Game
(Science SOL 2.5, 2.8, 3.6, 3.10, 3.11, 4.2, 4.8, 5.6, 5.7) ***Can be adapted for grades 2-5***
Students will focus on ways in which they can care for their environment by playing a fun interactive game. The game format is a "greenopoly" board game played in up to 6 groups.
Vocabulary Introduced: Litter, Recycle, Conservation, Environment, Ecology, Natural Resources and Pollution
Equipment needed: None

The Water Game
(Science SOL 2.5, 3.6, 3.10, 3.11, 4.8, 5.4, 5.6) *Can be adapted for grades 2-5*
Students will play an interactive giant ground version of a board game that focuses on ways to preserve, conserve, and share our waters. The game can be played indoors or outdoors.
Vocabulary Introduced: Conserve, Preserve, Natural Resources, Water Pollution, Water Cycle, Hydrologic Cycle, Surface Water, Groundwater, Consumers, Desalination and Watershed
Equipment needed: None

Grade 3 (45 minutes)

New! ***Groundwater: What Goes Down, Must Come Up***
(Science SOL: 3.6, 3.7, 3.9, 4.5, 4.8, 5.1, 5.6, 5.7; Math SOL: 5.8)
Students will use the Bedrock Simulator and Rainmaker models to examine the complete water cycle, and discover the movement and storage of water from the surface through belowground soil and bedrock. The flow of water will be traced, covering basic groundwater concepts. Students will see the immediate effect of groundwater contamination. The Rainmaker will demonstrate the *Water Cycle* as part of the surface to groundwater cycle.
Vocabulary: Aquifer, Bedrock, Subsoil, Topsoil, Clay, Runoff, Groundwater, Evaporation, Condensation, Precipitation, Nonpoint Source Pollution, Point Source Pollution, Sand, Soil, Water Conservation and Wetlands
Equipment needed: Paper Towels, Sink

Soil: Who Needs It?
(Science SOL 3.3, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10)
Students will discover why soil is important while viewing the DVD, Soil: Who Needs It? The DVD focuses on why we are losing billions of tons of soil each year to erosion and what we can do to save our soil. The DVD is followed by an energetic game of TRASH to SOIL. The object of this activity is to create a viable compost pile using only green and brown materials while keeping the pile free of inappropriate items, helping to build a better understanding of soil properties.
Vocabulary Introduced: Erosion, Humus, Organic, Inorganic, Decompose and Compost
Equipment needed: DVD Player

Think Earth, "e"
(Science SOL 3.6, 3.10)
Students will examine the 3 R's as a means to conserve identified natural resources.
Vocabulary Introduced: Reduce, Reuse, Recycle
Equipment needed: VCR

The Rotten Truth
(Science SOL 3.10)
Solid waste disposal is a major industry. Students learn different methods of waste disposal and ways they personally can reduce the waste stream.
Vocabulary Introduced: Solid waste disposal, Landfill, Compost and Waste stream
Equipment needed: VCR

The Green Game
(Science SOL 2.5, 2.8, 3.6, 3.10, 3.11, 4.2, 4.8, 5.6, 5.7) *Can be adapted for grades 2-5*
Students will focus on ways in which they can care for their environment by playing a fun interactive game. The game format is a "greenopoly" board game played in up to 6 groups.
Vocabulary Introduced: Litter, Recycle, Conservation, Environment, Ecology, Natural Resources and

Pollution
Equipment needed: None

The Water Game
(Science SOL 2.5, 3.6, 3.10, 3.11, 4.8, 5.4, 5.6) ***Can be adapted for grades 2-5***
Students will play an interactive giant ground version of a board game that focuses on ways to preserve, conserve, and share our waters. The game can be played indoors or outdoors.
Vocabulary Introduced: Conserve, Preserve, Natural Resources, Water Pollution, Water Cycle, Hydrologic Cycle, Surface Water, Groundwater, Consumers, Desalination and Watershed
Equipment needed: None

The Lorax
(Science SOL K.5, 2.5, 2.8, 3.6, 3.10)
Students will listen to Dr. Seuss' story "The Lorax" to learn about the human effects on animals and the environment. They will recognize that they have control over their consumption of natural resources.
Vocabulary Introduced: Conservation, Environment, Ecology, Natural Resources and Pollution
Equipment needed: VCR

Grade 4 (45 minutes)

Aluminum (Plastic, or Paper) Recycling
(Science SOL 4.2, 4.8)
Students will follow a can to a recycling center and learn about recycling, how it works, why it's important, what they can do to help. Trash can be dangerous when it's not in its proper place - the garbage can or recycling can. Students will keep one piece of litter (aluminum can) in mind as they follow it from the street to a new container or usable item. This program can also substitute "Paper Recycling" or "Plastic Recycling" for the title. Students will see a variety of new materials that were recycled from other materials.
Vocabulary Introduced: Recycling, Reduce, Reuse, Natural Resources and Machines
Equipment needed: VCR

Environmental Bingo
(Science SOL 3.11, 4.8)
Students will examine aspects of recycling and solid waste management, and then play a fun interactive game reviewing what they have learned.
Vocabulary Introduced: Litter and Recycle
Equipment needed: None

Watersheds to Oceans
(Science SOL 4.8, 5.6; English SOL 4.2, 5.1, 5.8; Math SOL 4.12, 5.11)
Students will identify watersheds and map the movement of solid waste from storm drains to the ocean. The Enviroscape (or Watershed Demo Pans) will show the effects of erosion, pesticides, fertilizers, and litter on waterways and bodies of water. The effects of natural disasters and litter will be compared and contrasted.
Vocabulary Introduced: Litter, Solid Waste, Pollution, Watershed, Erosion, Pesticides, Fertilizers, Natural and Disasters
Equipment needed: None

The Trash Train
(Science SOL: 3.11, 4.5, 4.8, 5.6, 5.7)
Students will follow trash as it is brought in by localities (Roanoke City, Roanoke County, and Vinton) as it is dumped on the transfer station floor for inspection, loaded onto "Trash Train" rail cars, and travels to the Smith Gap Landfill. Ways of decreasing the amount of trash will be addressed.
Vocabulary: Recycle, Decompose, Biodegrade, Ventilation, Wasteline Express, Synthetic, Leachate, Natural Buffer and Compost
Equipment needed: DVD/VCR

New! ***Groundwater: What Goes Down, Must Come Up***
(Science SOL: 3.6, 3.7, 3.9, 4.5, 4.8, 5.1, 5.6, 5.7; Math SOL: 5.8)
Students will use the Bedrock Simulator and Rainmaker models to examine the complete water cycle, and discover the movement and storage of water from the surface through belowground soil and bedrock. The flow of water will be traced, covering basic groundwater concepts. Students will see the immediate effect of groundwater contamination. The Rainmaker will demonstrate the *Water Cycle* as part of the surface to groundwater cycle.
Vocabulary: Aquiclude, Aquifer, Bedrock, Subsoil, Topsoil, Clay, Runoff, Groundwater, Evaporation, Condensation, Precipitation, Nonpoint Source Pollution, Point Source Pollution, Sand, Soil, Water Conservation and Wetlands
Equipment needed: Paper Towels, Sink

The Green Game
(Science SOL 2.5, 2.8, 3.6, 3.10, 3.11, 4.2, 4.8, 5.6, 5.7) ***Can be adapted for grades 2-5***
Students will focus on ways in which they can care for their environment by playing a fun interactive game. The game format is a "greenopoly" board game played in up to 6 groups.
Vocabulary Introduced: Litter, Recycle, Conservation, Environment, Ecology, Natural Resources and Pollution
Equipment needed: None

The Water Game
(Science SOL 2.5, 3.6, 3.10, 3.11, 4.8, 5.4, 5.6) ***Can be adapted for grades 2-5***
Students will play an interactive giant ground version of a board game that focuses on ways to preserve, conserve, and share our waters. The game can be played indoors or outdoors.
Vocabulary Introduced: Conserve, Preserve, Natural Resources, Water Pollution, Water Cycle, Hydrologic Cycle, Surface Water, Groundwater, Consumers, Desalination and Watershed
Equipment needed: None

The Rotten Truth
(Science SOL 3.10, 4.4, 4.5, 4.8)
Solid waste disposal is a major industry. Students learn different methods of waste disposal and ways they personally can reduce the waste stream.
Vocabulary Introduced: Solid Waste Disposal, Landfill, Compost, Waste Stream, Reduce, Reuse, Recycle, Biodegrade, Decompose and Conserve
Equipment needed: VCR

Grade 5 (45 Minutes)

Oceans of Trash
(Science SOL 5.4)
A 35 mm slide or PowerPoint presentation and discussion review of ocean characteristics and Roanoke Valley's connections to the ocean. Marine debris is a health hazard to marine mammals and aquatic life, presenting threats such as entanglement.
Vocabulary Introduced: Salinity, Estuary and Riparian
Equipment needed: Projection Screen, Overhead Projector

Watersheds to Oceans
(Science SOL 4.8, 5.6; English SOL 4.2, 5.1, 5.8; Math SOL 4.12, 5.11)
Students will identify watersheds and map the movement of solid waste from storm drains to the ocean. The Enviroscape (or Watershed Demo Pans) will show the effects of erosion, pesticides, fertilizers, and litter on waterways and bodies of water. The effects of natural disasters and litter will be compared and contrasted.
Vocabulary Introduced: Litter, Solid Waste, Pollution, Watershed, Erosion, Pesticides, Fertilizers and Natural Disasters
Equipment needed: None

New! ***Groundwater: What Goes Down, Must Come Up***
(Science SOL: 3.6, 3.7, 3.9, 4.5, 4.8, 5.1, 5.6, 5.7; Math SOL: 5.8) ***Can be adapted for grades 3-5***
Students will use the Bedrock Simulator and Rainmaker models to examine the complete water cycle, and discover the movement and storage of water from the surface through belowground soil and bedrock. The flow of water will be traced, covering basic groundwater concepts. Students will see the immediate effect of groundwater contamination. The Rainmaker will demonstrate the *Water Cycle* as part of the surface to groundwater cycle.
Vocabulary: Aquiclude, Aquifer, Bedrock, Subsoil, Topsoil, Clay, Runoff, Groundwater, Evaporation, Condensation, Precipitation, Nonpoint Source Pollution, Point Source Pollution, Sand, Soil, Water Conservation and Wetlands
Equipment needed: Paper Towels, Sink

The Green Game
(Science SOL 2.5, 2.8, 3.6, 3.10, 3.11, 4.2, 4.8, 5.6, 5.7) ***Can be adapted for grades 2-5***
Students will focus on ways in which they can care for their environment by playing a fun interactive game. The game format is a "greenopoly" board game played in up to 6 groups.
Vocabulary Introduced: Litter, Recycle, Conservation, Environment, Ecology, Natural Resources and Pollution
Equipment needed: None

The Water Game
(Science SOL 2.5, 3.6, 3.10, 3.11, 4.8, 5.4, 5.6) ***Can be adapted for grades 2-5***
Students will play an interactive giant ground version of a board game that focuses on ways to preserve, conserve, and share our waters. The game can be played indoors or outdoors.
Vocabulary Introduced: Conserve, Preserve, Natural Resources, Water Pollution, Water Cycle, Hydrologic Cycle, Surface Water, Groundwater, Consumers, Desalination and Watershed
Equipment needed: None

Clean Valley Council, Inc. Outreach Programs

Middle School

Grade 6-8 (45 minutes)

New! Groundwater Flow

(Science SOL: 6.1, 6.5, 6.7, 6.9, LS.7, LS.10, LS.12, 8.1, 8.2; *Math SOL: 6.2, 7.5, 8.1, 8.7)*

Students will use the Bedrock Simulator and Rainmaker models to examine the complete water cycle, and discover the movement and storage of water from the surface through belowground soil and bedrock. The Bedrock Simulator covers basic groundwater concepts to include aquifers, saturated and unsaturated zones and water table. Students will see the immediate effect of groundwater contamination. Remediation (pollution removal) of contaminated groundwater will demonstrate the connection between surface and groundwater. The Rainmaker model will demonstrate the *Water Cycle* as part of the surface to groundwater cycle. Follow-up activities for teachers include Percent Porosity, Density, and Volume calculations.

Vocabulary: Aquiclude, Aquifer, Artesian Well, Bedrock, Confined (Artesian) Aquifer, Discharge Area, Flow-Through Lake, Groundwater, Infiltration, Nonpoint Source Pollution, Permeability, Point Source Pollution, Porosity, Recharge Area, Runoff, Saturated Zone, Unsaturated Zone, Water Conservation, Wetlands

Equipment Needed: Paper Towels, Sink

New! Why Watersheds?

(Science SOL: ES.7, ES.9, ES.11, BIO.3)

Students will follow a Power Point presentation that addresses five topics: Why Watersheds Matter, What Is a Watershed, Impacts of Impervious Cover, What Your Community Can Do to Protect Your Watershed, and What You Can Do to Protect Your Watershed.

Vocabulary: Aquatic Buffer, Aquatic Corridor, Green Parking Lots, Groundwater, Impervious Cover, Nonpoint Source Pollution, Point Source Pollution, Runoff, Water Conservation, Watershed, Wetlands

Equipment Needed: Projection Screen, Electrical Outlet

Environmental Jeopardy

New! Stormwater Jeopardy!

(Science SOL 6.2, 6.3, 6.6, 6.9, LS.7, LS.12, PS.6, *World Geography SOL: WG.1, WG.2, WG.6)*

Students will examine aspects of environmental issues, and then play a fun interactive game reviewing what they have learned. Topics to choose from (choose one) are Stormwater, Water, Energy, Solid Waste, or Ecological Footprint.

Vocabulary Introduced: Energy, Natural Resources, Renewable Resources, Litter, Solid Waste, Recycle, Watersheds, Runoff, Pollution

Equipment needed: None

The Chemistry of Recycling

(Science SOL 6.1, 6.4, LS.1, LS 6, PS.1, PS.2, PS.4)

This two-part program starts with the cycles of recycling. Students are given cycles of recycled products and try to determine the identity of each product. The second part of the program is a ***mini-lab*** where students try to identify the type of plastic by testing the reaction of each plastic in different solutions. Students will see a variety of new products that were recycled from other materials.

Vocabulary Introduced: Recycle, Decompose, Biodegrade, Compost, Ingot, Extruded, Alloyed, Density, Resins

Equipment needed: Overhead Projector in classroom, 16 small ***glass*** beakers

***Drains to Rivers!* (Excellent Precursor to *Reeling in Runoff* Program)**
(Science SOL 6.7, 6.9, LS.11, LS.12, ES.9, *World Geography SOL: WG.1, WG.2, WG.6)*
Students will discover what happens to common household waste, as it becomes "runoff". Solutions for cleaner and less runoff will be explored, using an Enviroscape runoff model or watershed demo pans that represent individual parts of a community.
Vocabulary Introduced: Litter, Solid Waste, Natural Resources, Storm Drain, Runoff, Nonpoint Source Pollution
Equipment Needed: None

Reeling in Runoff
(Science SOL 6.7, 6.9, LS.11, LS.12, ES.9, *World Geography SOL: WG.1, WG.2, WG.6)*
Students will discover practical solutions for preventing water pollution. Best Management Practices (BMPs) are systems, activities, and structures that can reduce and prevent nonpoint source pollution. Solutions for cleaner and less runoff will be explored, using a model that represents individual parts of a community.
Vocabulary Introduced: Litter, Solid Waste, Natural Resources, Storm Drain, Runoff, Nonpoint Source Pollution, BMPs
Equipment Needed: None

Oceans of Trash
(Science SOL 6.9, LS.4, LS.7, LS.10, LS.11, LS.12)
A 35 mm slide or Power Point presentation and discussion review of Roanoke Valley's connections to the ocean and ocean characteristics. Marine debris is a health hazard, presenting a threat for entanglement by marine mammals and aquatic life.
Vocabulary Introduced: Salinity, Estuary, Riparian
Equipment Needed: Projection Screen, Overhead Projector, Electrical Outlet

Stream School (offered in the Fall and Spring)
Science SOL 6.5, 6.7, LS.7, LS.10, LS.12, ES.7, ES.9, ES.11, BIO.3, BIO.9, CH.1)
Students will participate in a field trip experience at a local stream to identify macroinvertebrates and perform chemical tests. This will enhance their understanding of the factors involved in determining water quality, and the connection between point source and non-point source pollution in their waterways.
Vocabulary Introduced: Riparian Corridor, Litter, Erosion, Point Source Pollution, Nonpoint Source Pollution
Equipment Needed: Old sneakers or water shoes/boots

Watershed Connections
(Science SOL 6.3, 6.5, 6.7, 6.9, LS.7, LS.10, LS.12)
A 35 mm slide presentation and discussion will examine watersheds and determine the problems associated with erosion, pollution, and litter.
Vocabulary Introduced: Riparian Corridor, Litter, Erosion
Equipment needed: Screen, Electrical Outlet

Plants Eat Bad Chemicals
(Science SOL 6.7, 6.9, LS.3, LS.4, LS.7, LS.10, PS.7)
The students will learn about the process of Phytoremediation, where plants remove, transfer, stabilize or destroy contaminants in soil and groundwater. Through classroom demonstrations the students will observe groundwater and soil contamination as a result of chemicals accumulating in soil and water, and review plant anatomy.

Vocabulary Introduced: Phytoremediation, Groundwater, Transpiration, Contamination, Infiltration, Riparian
Equipment Needed: None

Water: Nature's Recycling System:
(Science SOL 6.1, 6.7, 6.9, LS.1, LS.3, LS.7, LS.10)
This interactive program takes students through the Water Cycle with emphasis on water management, topography, infiltration, runoff and erosion. Through hands on activities and demonstrations students will discuss these occurrences and how they are influenced by human activities.
Vocabulary Introduced: Precipitation, Evaporation, Transpiration, Topography, Infiltration, Erosion, Runoff
Equipment Needed: None

***Land Use: For the People, the Government, or the Environment*?:**
(Science SOL: 6.2, 6.5, LS.12, *Civics & Economics SOL: CE.11, CE.12, World Geography SOL: WG.7, WG.9)*
Students will discover what decisions need to be made when they try to place a school on a tract of land that has many aspects to be considered: citizens, government regulations, environmental impacts. These decisions will carry costs and benefits, value, and personal choices. Principles to be discussed include: a. scarcity forces choices b. resource management decisions are made by people acting alone or in groups c. changes in rules and laws alter incentives and decisions d. people value things differently.
Vocabulary Introduced:
Costs and Benefits = positive and negative factors involved as a result of choices
Natural Resources = all the Earth's materials that make other products
Incentives = rewards or punishment for behavior
Hammock = stand of preserved, original trees
Hazardous Waste = waste that is harmful to the environment and people
Groundwater = water found beneath the soil's surface
Water conservation = the careful use and protection of water resources in quantity and quality
Wetlands = landforms that are wet at least part of the year and have a particular type of soil and plants
Scrub Habitat = area with small trees, bushes or plants that have low moisture
Superfund = underground storage site of hazardous waste on a list to be cleaned up and restored by the government
Watershed address = area you live in that drains to the nearest creek, stream, or river
Equipment needed: Overhead projector

Aluminum (Plastic, or Paper) Recycling
(Science SOL 6.2, 6.6, 6.9, LS.12, *Civics & Economics SOL: CE.3, CE.4, World Geography SOL: WG.1, WG.2, WG.6)*
Students will follow a can to a recycling center and learn about recycling, how it works, why it's important, what they can do to help. Trash can be dangerous when it's not in its proper place: the garbage can or recycling can. Students will keep one piece of litter (aluminum can) in mind as they follow it from the street to a new container or usable item. This program can also substitute "Paper Recycling" or "Plastic Recycling" for the title. Students will see a variety of new materials that were recycled from other materials.
Vocabulary Introduced: Recycling, Reduce, Reuse, Natural Resources, Machines
Equipment needed: VCR

Clean Valley Council, Inc. Outreach Programs

High School

Grade: 9 –12 (45 minutes)

New! Groundwater: Flow, Contamination and Remediation
(Science SOL: ES.1, ES.3, ES.7, ES.9, ES.13, BIO.3, BIO.9, CH.1, CH.6, PH.2;
Math SOL: A.7, G12, G.13, G.14, AII.3, AII.4, AII.8, COM.12, PS.2)
Students will use the Bedrock Simulator and Rainmaker models to examine the complete water cycle, and discover the movement and storage of water from the surface through belowground soil and bedrock. The Bedrock Simulator covers basic groundwater concepts to include aquifers, saturated and unsaturated zones and water table. Students will see the immediate effect of groundwater contamination from abandoned wells, underground storage tanks and septic tanks as it moves through different zones, wells, lakes, rivers, wetlands and springs. The surface water to groundwater connection and remediation (pollution removal) can be examined by showing how contaminated water percolates down into groundwater and can be drawn up into wells and surface water. Chemical contaminates with different densities or different pH (including buffering) can be demonstrated and discussed. The Rainmaker model demonstrates the aboveground part of the water cycle and how it connects to the groundwater portion of the cycle. *Follow-up activities* for teachers include Percent Porosity calculations, Slope of the Water Table (Hydraulic Gradient) calculations, Potentiometric Surface (water pressure and water level) measurements, and Average Flow Velocity of groundwater.
Vocabulary Introduced: Aquiclude, Aquifer, Artesian Well, Bedrock, Cone of Depression, Confined Aquifer (Artesian), Discharge Area, Flow-Through Lake, Groundwater, Hydraulic Gradient, Hydraulic Head, Infiltration, Nonpoint Source Pollution, Perched, Permeability, Plume, Point Source Pollution, Porosity, Potentiometric Surface, Recharge Area, Runoff, Saturated Zone, Unsaturated Zone, Water Conservation, Wetlands
Equipment Needed: Paper Towels, Sink

New! Why Watersheds?
(Science SOL: ES.7, ES.9, ES.11, BIO.3)
Students will follow a Power Point presentation that addresses five topics: Why Watersheds Matter, What Is a Watershed, Impacts of Impervious Cover, What Your Community Can Do to Protect Your Watershed, and What You Can Do to Protect Your Watershed.
Vocabulary Introduced: Aquatic Buffer, Aquatic Corridor, Green Parking Lots, Groundwater, Impervious Cover, Nonpoint Source Pollution, Point Source Pollution, Runoff, Water Conservation, Watershed, Wetlands
Equipment Needed: Projection Screen

Environmental Jeopardy
New! Stormwater Jeopardy!
(Science SOL: ES.7, ES.9, ES.11, BIO.5, BIO.8, BIO.9, PH.8)
Students will examine aspects of environmental issues, and then play a fun interactive game reviewing what they have learned. Topics to choose from (choose one) are Water, Stormwater, Energy, Solid Waste, or Ecological Footprint.
Vocabulary Introduced: Energy, Natural Resources, Renewable Resources, Litter, Solid

waste, Recycle, watersheds, Runoff, Pollution
Equipment needed: None

The Chemistry of Recycling
(Science SOL: BIO.1, CH.1, CH.2, PH.1)
This two-part program starts with the cycles of recycling. Students are given cycles of recycled products and try to determine the identity of each product. The second part of the program is a *mini-lab* where students try to identify the type of plastic by testing the reaction of each plastic in different solutions. Students will see a variety of new products that were recycled from other materials.
Vocabulary Introduced: Recycle, Decompose, Biodegrade, Compost, Ingot, Extruded, Alloyed, Density, Resins
Equipment needed: Overhead Projector in classroom, 16 small ***glass*** beakers

After the Storm
(Science SOL: BIO. 9, CH.1, CH.6, PH.4; *English SOL 9.4, 11.4)*
Students will discover what happens after it rains, and what ends up in our streams, lakes, rivers, and oceans. How ecosystems can collapse due to turbidity and low oxygen levels will be outlined and suggestions for filtering runoff by wetlands and green roofs will be discussed.
Vocabulary Introduced: Solid Waste, Natural Resources, Storm Drain, Runoff, Nonpoint Source Pollution, Fecal Coliforms, Hypoxic, Groundwater, Water Conservation and Quality, Wetlands, Green Roof, Watershed Address
Equipment Needed: Overhead Projector, DVD

Water: Woes to Wonders
(Science SOL: BIO.9, CH.1, CH.6, PH.4, *English SOL: 9.4, 11.4)*
Students will discover why the overuse of groundwater has been described as a non-renewable resource that is being "mined". Wetlands will be described and students will see what makes wetlands awesome natural wonders. Activities and demonstrations will discuss their watershed address, and suggestions for the quality and quantity of water preservation will be discussed.
Vocabulary Introduced: Solid Waste, Natural Resources, Storm Drain, Runoff, Nonpoint Source Pollution, Groundwater, Water Conservation, Wetlands, Riparian, Watershed Address
Equipment Needed: Overhead Projector, VCR

How Much is 6000 cubic km of Water?
(Science SOL: BIO.9, CH.1, CH.6, PH.4, Mathematics SOL: A.10, English SOL: 9.4, 11.4)
Students will discover that the water cycle is the most impressive geothermal cycle on earth. The transfer and storage of water on a global scale gives the appearance of an abundance of water, but with only 1% available for people, plants, and animals we need to be extremely careful in managing Earth's water resources. Activities and demonstrations will address the causes of water pollution and suggestions for the quality and quantity of water preservation will be discussed.
Vocabulary Introduced: Solid Waste, Natural Resources, Storm Drain, Runoff, Nonpoint Source Pollution, Water Conservation, Watershed Address
Equipment Needed: Overhead Projector, VCR

Stream School *(Offered in Fall and Spring)*
(Science SOL: BIO.3, BIO.9, CH.1)
Students will participate in a field trip experience at a local stream to identify macroinvertebrates and perform chemical tests. This will enhance their understanding of the factors involved in determining water quality, and the connection between point source and non-point source pollution in their waterways.
Vocabulary Introduced: Riparian Corridor, Litter, Erosion, Point Source Pollution, Nonpoint Source Pollution
Equipment Needed: Old sneakers or water shoes/boots

Oceans of Trash
(Science SOL: BIO.5, BIO.8, BIO.9*)*
A 35 mm slide presentation and discussion review of Roanoke Valley's connections to the ocean and ocean characteristics. Marine debris is a health hazard, presenting a threat for entanglement by marine mammals and aquatic life.
***Vocabulary Introduced:** Salinity, Estuary, Riparian*
Equipment Needed: Slide projector/ Screen (or blank wall), Overhead Projector

Watershed Connections
(Science SOL: BIO.3, BIO.9*)*
A 35 mm slide presentation and discussion will examine watersheds and determine the problems associated with erosion, pollution, and litter.
***Vocabulary Introduced:** Riparian Corridor, Litter, Erosion*
***Equipment needed:** Screen, Electrical Outlet*

Plants Eat Bad Chemicals
(Science SOL: BIO 9*)*
The students will learn about the process of Phytoremediation, where plants remove, transfer, stabilize or destroy contaminants in soil and groundwater. Through classroom demonstrations the students will observe groundwater and soil contamination as a result of chemicals accumulating in soil and water, and review plant anatomy.
***Vocabulary Introduced:** Phytoremediation, Groundwater, Transpiration, Contamination, Infiltration, Riparian*
***Equipment Needed:** None*

Water: Nature's Recycling System:
(Science SOL ES.2, ES.7, ES.9, BIO.9)
This interactive program takes students through the Water Cycle with emphasis on water management, topography, infiltration, runoff and erosion. Through hands on activities and demonstrations students will discuss these occurrences and how they are influenced by human activities.
***Vocabulary Introduced:** Precipitation, Evaporation, Transpiration, Topography, Infiltration, Erosion, Runoff*
***Equipment Needed:** None*

Land Use: For the People, the Government, or the Environment?:
(Science SOL: ES.7, ES.11, BIO.5, 8, 9, Government SOL: 12.6, 12.8, 12.10, 12.13, 12.14, 12.15, 12.16)

Students will discover what decisions need to be made when they try to place a school on a tract of land that has many aspects to be considered: citizens, government regulations, environmental impacts. These decisions will carry costs and benefits, value, and personal choices. Principles to be discussed include: a. scarcity forces choices b. resource management decisions are made by people acting alone or in groups c. changes in rules and laws alter incentives and decisions d. people value things differently.

Vocabulary Introduced:

Costs and Benefits = positive and negative factors involved as a result of choices
Natural Resources = all the Earth's materials that make other products
Incentives = rewards or punishment for behavior
Hammock = stand of preserved, original trees
Hazardous Waste = waste that is harmful to the environment and people
Groundwater = water found beneath the soil's surface
Water conservation = the careful use and protection of water resources in quantity and quality
Wetlands = landforms that are wet at least part of the year and have a particular type of soil and plants
Scrub Habitat = area with small trees, bushes or plants that have low moisture
Superfund = underground storage site of hazardous waste on a list to be cleaned up and restored by the government
Watershed address = area you live in that drains to the nearest creek, stream, or river

Equipment needed: *Overhead projector*

Aluminum (Plastic, or Paper) Recycling

(Science SOL ES.7, ES.11, BIO.5, BIO.9, PH.4)

Students will follow a can to a recycling center and learn about recycling, how it works, why it's important, what they can do to help. Trash can be dangerous when it's not in its proper place: the garbage can or recycling can. Students will keep one piece of litter (aluminum can) in mind as they follow it from the street to a new container or usable item. This program can also substitute "Paper Recycling" or "Plastic Recycling" for the title. Students will see a variety of new materials that were recycled from other materials.

Vocabulary Introduced: *Recycling, Reduce, Reuse, Natural Resources*

Equipment needed: *VCR*

THINK BLUE

A FREE CONGRESS FOR JUNIOR & SENIOR HIGH SCHOOL STUDENT REPS FOR AN EXCITING DAY OF

OPTIONS, IDEAS AND CONCEPTS

ABOUT OUR WATERWAYS, ENERGY AND ENVIRONMENTAL IDEAS

PANELIST, WORKSHOPS AND LUNCH PROVIDED

540-345-5523 OR WWW.CLEANVALLEY.ORG

Earth Summit 2009

Thursday, November 5, 2009

THINK BLUE

Roanoke Higher Education Center
108 N. Jefferson Street Roanoke Va.

8:30 am- 9:10 am	Lobby	**Registration**/ Booths
9:15 am - 9:25 am	Room 212	**Welcome**: Bob Bengtson, President Clean Valley Council, Inc

"Even the upper end of the river believes in the ocean", by William Stafford (1914-1993) American, poet, born in Hutchinson, Kansas

9:30 am **Jeremy Werness Lecturers*** – ***Think Blue: Thinking Green***

Moderator: Nell Boyle, LEED AP, Director of Sustainable Practices. Breakell Inc., General Contractors

Panel:

Terry L. Hall, Manager of External Affairs, Appalachian Power
Scott Martin, Director of Commerce and Leisure, Franklin County
Greg Eaton, Ph.D. Director, Claytor Nature Study Center
David Sligh, James River Association Riverkeeper

Panel will share their views on economic development, energy, conservation and education. The summit will explore and discuss the ideals of green living, water protection, energy, stewardship, controlling storm water run-off and why we choose to tackle blue/green issues.

10:30 am - 11:20 am	**Concurrent Sessions** (see back of nametag for your session)
11:20 am	Break
11:35 am - 12:25 pm	**Concurrent Sessions** (see back of nametag for your session)
12:30 pm	**Lunch** and Entertainment Closing remarks

*The Jeremy Werness Lecturers are underwritten in memory of a son, a husband, a young father, a friend to many and a green builder- an environmentalist and a role model. This memorial has been provided by his family and his many friends for you to learn, enjoy and to follow his lead.

RECLAIM OUR RIVERS

Roanoke Valley, Virginia

FALL WATERWAYS CLEANUP & CELEBRATION

Saturday, October 3, 2009

Cleanup: 8:30 – 11:30 a.m.

Celebration at Wasena Park:

12 noon – 2 p.m.

Clean your favorite spot along a stream, tributary, or river (or get to know a new one). Supplies are provided.

Then join your fellow volunteers at Wasena Park for lunch, music, and free samples.

Partners include:

Clean Valley Council and its partners, DCR, DEQ, Kiwanis Club of Roanoke, Orvis, Roanoke City Parks and Recreation, Roanoke County Parks and Recreation, Roanoke Natural Foods Co-op, Tom's of Maine, Town of Vinton, Upper Roanoke River Roundtable, Western Virginia Water Authority

Sign up: Clean Valley Council at www.cleanvalley.org or 540.345.5523

Mark your calendars!

Thursday, November 5TH,

is Clean Valley Council's

EARTH SUMMIT 2009

at the Roanoke Higher Ed. Center!

FREE TO SELECTED JUNIORS & SENIORS

a one-day environmental conference.

Questions: Clean Valley Council 541 luck Avenue Suite 319 Roanoke, VA 24016 540-345-5523 www.cleanvalley.org

CLEAN VALLEY DAY 2010

SATURDAY
MARCH 27th
9:00AM to 12 Noon
TO REGISTER GO TO
www.cleanvalley.org

In Loving Memory Of
Ann Masters 1994-2009

Clean Valley Day

The Clean Valley Council and the Town of Vinton would like to thank everyone who helped make this year's Clean Valley Day a huge success! We had five teams with multiple volunteers who picked up 1.88 tons of trash and 54 tires. Everyone had a great time, and some interesting items turned up. Volunteers found scaffolding buck, large sections of angle iron and appliances in addition to the regular items such as drink cans, cups and cigarette butts. Thanks again to all the volunteers, sponsors, organizers and anyone else who is doing their part to make our Valley a more beautiful place to live.

by Danae Wensley • Photos by Mary Beth Layman

earthday
ROANOKE 2010

April 17, 2010

For Immediate Release
April 14, 2010

Contact: Amy Halsted, The Halsted Agency, 540.204.0252

Earth Day Roanoke 2010, Our Way of Celebrating 40 Years

Every Day is Earth Day!

Free Outdoor Music at Grandin Gardens (1731 Grandin Road)
10 am **Erin and Melody**, 11am and 3pm **Chris Miller**, 1-3pm **Oak Roots**

Free Outdoor Evening Concert at Va Heights Baptist Church (beside the Co-Op)
Music sponsored by The Blue Ridge Environmental Network
5pm **Bebop Hoedown**, 6pm **David Simpkins**, 7pm **La La Land**

Additions to Expansive Grandin Gardens Programming
10am Children's Book Reading, *Johnny Green and the Little Green Man*; 10:30am Yoga Peace Project, participants to meet in front yard by pool; 1pm and 3pm Go Green Workshops; 2pm Gardening Tips in the City

Local Environmental Groups and Exhibitors at Grandin Gardens (12 to 4 pm)
Over 20 non-profit groups and numerous supporting services, like Parks and Recreation, Roanoke City Recycling and Catholic Refugee Services plus green businesses and products and environmental information and networking. Complete list attached.

Mayor's Earth Day Proclamation (11:15 am)
Mayor Bowers will be at Grandin Gardens (see address above) to read his official proclamation recognizing the 40th annual Earth Day event at 11:15 am.

Earth Day Activities at the Roanoke Natural Foods Co-Op (8:00 am – 8:00 pm)
Annual Customer Appreciation Day!
Annual Seedling Sale with Full Circle Farm—through Mother's Day; Local vendor set up inside the Co-Op with lots of free samples of their fare (10am-3pm); Free talks with Jeanie Redick: "Got Green?" The importance of eating those garden greens; "Natural Gardening with Tenley Weaver": for beginners and beyond, Tenley Weaver from Full Circle Organic Farm will be teaching simple steps to gardening more "naturally"; Raw Foods with Amy Tuggle (1-4pm), and, all day, the Roanoke Valley Cool Cities Coalition will be passing out CFLs, energy efficient light bulbs. They go to the first 400 people making a purchase at the Co-op.

Free Earth Day Film at the Grandin Theater
For the Price of a Cup of Coffee (12pm)

Earth Day Tree Planting along Glade Creek in Vinton
Volunteers will plant trees to increase the tree canopy along Glade Creek. Contact Carol Craft for more information, ccrft@botetourt.org.

Green Special Recognition Award
This award is given by the *Blue Ridge Environmental Network* annually at Earth Day to a person or business who promotes environmental awareness in our area. This year's winner is: Lanford Brothers Construction Co. for their donation work to remove the old concrete patio behind the Charles Downs Natural Science Center in Roanoke and replace it with a porous paver surface that allows rain water to drain through to the ground below. This project was in support of the new City Garden addition to the Community Arboretum at VWCC. The City Garden also includes a rain garden and rain barrels for collecting water for the new plants.

For complete information on...

- Art...
- Exhibitors...
- Food...
- Music...

...and more, contact Polly Branch at 540.556.0825

Earth Day - Every Day

Steering Committee...

- Bill Modica, Blue Ridge Environmental Network
- Polly Branch, Grandin Gardens
- Pete Johnson, Grandin Village Business Association
- Tom Clarke, City of Roanoke
- Greater Raleigh Court Civic League
- John Bryant, Roanoke Natural Foods Co-Op
- Amy Halsted, The Halsted Agency
- Ron McCorkle, The Urbiculture Foundation

TOWN OF VINTON
2010 ARBOR DAY CELEBRATION

VINTON PUBLIC WORKS DEPARTMENT
804 3rd Street, Vinton
THURSDAY, APRIL 15, 2010
9:00 A.M.

PROGRAM

Welcome and Introduction of Guests

Chris Lawrence, Town Manager

Recognition of Contributors and Volunteers

Anita McMillan, Planning and Zoning Director
Town of Vinton

Valley Beautiful,
Virginia Department of Forestry,
Town of Vinton Public Works Department
Town of Vinton Planning and Zoning Department

Arbor Day Proclamation

Carolyn Fidler, Councilwoman
Town of Vinton

Arbor Day Program

Herman L. Horn Elementary School
Virginia Department of Forestry

Closing Remarks and Ceremonial Tree Planting

Robert Boeren, Forester
Virginia Department of Forestry

from around TOWN

Thirty seven volunteers from the Midway Community, Roanoke Chapter of Trout Unlimited and Duck Unlimited, Orvis, Roanoke River Roundtable and interested citizens held a tree planting day this past Saturday, April 17. Three hundred and forty eight trees were planted along Tinker Avenue. These trees will protect Glade Creek and increase the tree canopy in the Roanoke Valley. The planting was made possible by a $10,000. grant from the Virginia Department of Forestry and a $5,000. grant from Orvis.

And we didn't want kids to miss out on the fun of Arbor Day! On Thursday, April 15, students from Herman L Horn Elementary School took a field trip, where they met Ranger Bob. Ranger Bob taught the students about the importance of trees and how to care for them. Students then worked together to plant a tree right here in Vinton! A total of seven Red Maple October Glory trees were planted. This planting was made possible by a $1200 grant from Valley Beautiful and through the efforts of the Town of Vinton Planning and Public Works Departments.

Roanoke Valley Resource Authority

Household Hazardous Waste
ITEM No. III.F.

RVRA Household Hazardous Waste Expenditures

Month	Mobilization Cost	Disposal and Labor Cost	Total	Customers Registered	Customers Served	Cost Per Customer	Clean Harbors Technicians	Clean Harbors Man Hours
July	$ 1,100.00	$ 6,794.81	$ 7,894.81	98	65	$ 121.46	5	48
August	1,100.00	4,885.97	5,985.97	48	40	149.65	2	22
September	442.00	853.06	1,295.06	52	42	30.83	2	16
October	440.00	501.60	941.60	21	23	40.94	2	12
November	444.00	4,998.70	5,442.70	44	40	136.07	2	12
December	Canceled	0	0	0	0	0	0	0
January	444.00	421.80	865.80	35	33	26.24	2	10
February	$ 446.00	3,770.09	4,216.09	23	27	156.15	2	13
March	$ 446.00	466.07	912.07	33	42	21.72	2	11
April	$ 448.00	468.16	916.16	57	64	14.32	2	11
May				44	55			
June								
Total	$ 5,310.00	$ 23,160.26	$ 28,470.26	455	431	$ 66.06	21	154

Registration by Municipality

Month	County of Roanoke		City of Roanoke		Town of Vinton		Total	
	Customers Registered	Customers Served	Customers Registered	Customers Served	Customers Registered	Customers Served	Customers Registered	Customers Served
July	49	31	44	31	5	3	98	65
August	29	27	15	11	4	2	48	40
September	25	21	22	17	5	4	52	42
October	12	13	9	10	0	0	21	23
November	25	22	18	18	1	0	44	40
December	Canceled	0	0	0	0	0	0	0
January	17	16	17	16	1	1	35	33
February	12	15	10	11	1	1	23	27
March	20	25	12	16	1	1	33	42
April	29	34	27	28	1	2	57	64
May	20	26	22	27	2	2	44	55
June								
Total	238	230	196	185	21	16	455	431

Residential Service Area HHW Quantities

	Oil Gallons	Antifreeze Gallons	Batteries Each	Latex Paint Gallons	Total
Total YTD	1,007	0	101	5,144	
Customers Served	201	0	101	1,029	1,331

Note: Customers served assumption is 5 gallon limit per customer or 1 battery each

AGENDA
Citizen's Stormwater Advisory Committee
Charles Downs Nature Center at
Virginia Western Community College
Wednesday, August 26, 2009
6:00PM

I.	Welcome	Ann Masters
II.	Roll Call	Fran Szechenyi
III.	Picnic	
IV.	Speaker	Kip Foster, Industrial Stormwater Permitting in the Roanoke River Watershed
V.	Questions	
VI.	Adjournment	

CITIZEN'S ADVISORY COMMITTEE MEETING
STORMWATER MANAGEMENT PROGRAM
Charles Downs Nature Center at VWCC
MINUTES FOR WEDNESDAY, AUGUST 26, 2009

Present: Kip Foster, Helen Durham, Mark Garland, David Henderson, Dave Jones, Anita McMillan, Ann Masters, Kafi Nophlin, Butch Workman, Beth Walton, Fran Szechenyi.

Apologies: Linda Barker, Christopher Blakeman, Maureen Castern, Chris Craft, Megan Daily, Cary Lester, Michael Rakes, Vince Reynolds, Ray Sandifer, Shane Sawyer, George Simpson, Patrick Trout.

Masters opened the meeting by welcoming everyone and introducing our guest speaker Kip Foster. Special guest was Helen Durham.

Education Report:
Beth Walton: Walton distributed a copy of the new programs that has been developed for 2009-2010 school year. Masters asked Walton to explain the new composting game entitled "Soil Who Needs It?" with Sticky, Smoothy and Gritty Soilees.

Speaker: Kip Foster from the Department of Environmental Quality (DEQ) Regional office Industrial Stormwater Permitting for the Roanoke River Watershed. Foster's topic was on "Why is the Environment at Risk from Stormwater Runoff."

(1) EPA's Phase 1 Stormwater Regulations in November 1990, establishing permitting requirements under the National Pollutant Discharge Elimination System (NPDES) permit program for stormwater discharges associated with industrial activity (including construction activity) and for discharges from "large" and "medium" municipal separate storm sewer systems (MS4s); Phase 2 regulations added permitting requirements for "small" construction activity stormwater discharges and "small" MS4s.

(2) Total Maximum Daily Load (TMDL) study is scheduled to be completed by 2010. The objective of this study to reduce the amount of PCBs in the Upper Roanoke River Watershed. PCBs (Polychlorinated biphenyls) are mixtures of up to 209 individual chlorinated compounds known as congeners. The manufacture of PCBs was stopped in the U.S. in 1977 because of evidence they build up in the environment and can cause harmful health effects. The sources for PCBs

are contaminated sites, point sources, contaminated streambed sediments, atmospheric deposition.

(3) Reducing PCBs: water quality and fish tissue data were used to develop the PCB reduction goal. Meeting a water quality goal of 390 pg/L will lead to reduced PCBs in fish tissue. Common Carp were chosen as the most appropriate species to calculate the PCB reduction. Challenges are that PCB chemicals, mercury and water pollution associated with abandoned mine lands are emerging issue for the TMDL program.

Meeting was adjourned at 7:20PM.
Respectfully submitted by Fran Szechenyi.

deq.virginia.gov/vdes
epa.gov/owm/swl

AGENDA
Citizen's Stormwater Advisory Committee
Garst Mill Park
2599 Willowlawn Street
Monday, May 24, 2010
5:30 – 7:00 pm

I.	Roll Call	Fran Szechenyi
II.	Welcome and Overview	Gwen Mason
O	Where We've Been at CVC	CVC staff
O	Where We're Going	CVC staff
III.	Executive Committee Report	Christopher Blakeman
IV.	Enjoy Light Supper	
V.	Speaker	Dr. M. Rupert Cutler "The Future of Stormwater in Roanoke"

Dr. Cutler is a member of Roanoke City Council. He was instrumental in the formation of the Western Virginia Water Authority. His professional experience in natural resources spans decades.

V.	Plans for the Committee	Full Committee
VI.	Adjournment	

Thank you Citizens Advisory Committee for Stormwater Protection! We appreciate your service.

Barker, Linda	Mason, Gwen *
Castern, Maureen	McMillan, Anita *
Chris Craft	Nophlin, Kafi *
Christopher Blakeman *	Pat Rucker
Daily, Megan	Patrick Trout
Garland, Mark	Rakes, Michael
Henderson, David	Reynolds, Vince
Jeannie Keen	Sandifer, W. Ray
Jones, Dave	Sawyer, Shane
Justin Harness *	Simpson, George *
Lester, Cary	Walton, Beth

*member, Stormwater Executive Committee

CITIZEN'S ADVISORY COMMITTEE MEETING
STORMWATER MANAGEMENT PROGRAM
Roanoke County Administration Building
MINUTES FOR Monday, May 24, 2010

Present: Linda Barker, Christopher Blakeman, Megan Daily, Mark Garland, David Henderson, Dave Jones, Cary Lester, Anita McMillan, Gwen Mason, Kafi Nophlin, Ray Sandifer, Shane Sawyer, George Simpson, Beth Walton, Justin Harness, Fran Szechenyi, Dr. Rupert Cutler.

Apologies: Maureen Castern, Chris Craft, Michael Rakes, Vince Reynolds, Patrick Trout, Jeannie Keen, Pat Rucker.

Welcome: Gwen Mason welcomed everyone to the meeting and provided an opportunity for each member to introduce themselves.

Overview: Mason reviewed the following changes that will be taking place at Clean Valley Council:

1. New Executive Director June
2. Campaign to target different markets
3. New website being developed by Anstey Hodge Advertising Group include stormwater information
4. Promote stormwater education with the help of effective committees.

Executive Committee Report: Christopher Blakeman reported that there is a great deal of information is required by the State in order to maintain the localities permits. The following items will need to be addressed:

1. getting educational information out to the public by providing public meetings
2. reaching target markets
3. developing a stormwater brochure that would provide a general overview of the program and also brochures that would be target particular markets such as restaurants and car washes
4. strong committee support

Speaker: Dr. Rupert Cutler's presentation was on "The Future of Stormwater in Roanoke". Cutler began his speech with the following statement **"We don't have such an obvious crisis such as the BP oil spill, but we do have pesticides, fertilizers, oils, paints, copper from car brake pads, airplane de-icing fluid, livestock manure, pet waste and other contaminants washing into our streams and river to degrade natural aquatic systems and make life here less healthy than it should be. The result is that the water quality of 9 out of 13 major streams is currently listed as 'impaired'.**

Dr. Cutler continues his presentation with the following information:

- Clean Valley Council serves the cities of Roanoke and Salem, Botetourt and Roanoke counties, and the town of Vinton as an educational resource by providing educational programming about litter prevention and reuse, recycling, and reduction of the waste stream for all levels in both public and private schools.
- Western Virginia Land Trust and the Virginia Outdoors Foundation deal in conservation easements to protect public values on private land and represent the new frontier in land management –complementing the traditional approach of simply buying land in fee simple to create public forests and parks. The new stormwater management program represents the new frontier in water pollution control, with the treatment of contaminated runoff complementing the traditional approach of simply sending sewage through a waste water treatment plant.
- Stormwater management addresses the gaps in treatment of dirty water running into our streams, rivers and oceans.
- How to have a better regional stormwater management system: how do we pay for construction and maintenance of the needed storm drains, water treatment technologies and related infrastructure? Should localities reconfigure their Capital Improvement Programs to redirect their cash- and debt-funded new construction?
- How to be a better steward and responsible member of the ecological community: rain barrels, retention ponds to grassy swales and green roofs. Adopt incentives to reduce energy consumption by reducing our "carbon footprints" through LEED (Leadership in Energy & Environmental Design) construction standards. Adopt resolutions or ordinances that would require or at least incentivize the use of LID (Low Impact Development) techniques.

Dr. Cutler concluded with a quote from 'A Sand County Almanac' by Aldo Leopold. ***"We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect. There is no other way for land to survive the impact of mechanized man, nor for us to reap from it the esthetic harvest it is capable, under science, of contributing to culture...(That land is to be loved and respected is an extension of ethics."***

Meeting began at 5:25PM and adjourned at 7:00PM.
Respectfully submitted by Fran Szechenyi.
www.cleanvalley.org

You are cordially invited
to a

Stormwater Supper

Sponsored by the Clean Valley Council
Introducing our CVC Executive Director,
Cristina Siegel

Come hear a cool stormwater presentation
by CVC Staff
Linda Barker, Beth Walton, Fran Szechenyi

Tuesday, June 22, 2010
6:00 pm
Virginia Western Community College
Community Arboretum
Park in Lot #1 near Arboretum

AGENDA
Citizen's Stormwater Advisory Committee
Virginia Western Community College
Community Arboretum
Tuesday, June 22, 2010
6:00PM-8:00PM

I.	Roll Call	Fran Szechenyi
II.	Welcome	Gwen Mason
III.	New Executive Director Introduction (Cristina Siegel)	Gwen Mason
IV.	Stormwater Supper	
V.	Program	Go To School with CVC-Stormwater Programs in the School with CVC Staff (Fran Szechenyi, Linda Barker, Beth Walton)
V.	Questions/Answers/Discussion	
VI.	Adjournment	

Thank you Citizens Advisory Committee for Stormwater Protection! We appreciate your service.

Barker, Linda	Mason, Gwen *
Castern, Maureen	McMillan, Anita *
Chris Craft	Nophlin, Kafi *
Christopher Blakeman *	Pat Rucker
Daily, Megan	Patrick Trout
Garland, Mark	Rakes, Michael
Henderson, David	Reynolds, Vince
Jeannie Keen	Sandifer, W. Ray
Jones, Dave	Sawyer, Shane
Justin Harness *	Simpson, George *
Lester, Cary	Walton, Beth

*member, Stormwater Executive Committee

E & S CONTROL INSPECTION/PLAN REVIEWER CERTIFICATIONS

NAME		CERTIFICATION	CERTIFICATE #	EXPIRATION DATE
Atkinson	Bob	Professional Engineer	0402 041822	1/31/2011
Bailey	Jeff	Professional Engineer	0402 0032993	1/31/2011
Simpson	George	Professional Engineer	0402 014167	8/31/2009
Cooper	Matt	Plan Reviewer	497	11/30/2009
Yates	Morgan	Plan Reviewer	458	5/31/2011
Biller	Justin	Combined Administrator	543	5/31/2009
Blankenship	Lindsay	Combined Administrator	690	11/30/2010
Daily	Megan	Combined Administrator	722	11/30/2010
Thompson	Philip	Combined Administrator	698	11/30/2010
Covey	Arnold	Program Administrator	164	11/30/2011
Sowder	Denise	Program Administrator	313	5/31/2010
Altice	Jeff	Inspector	1926	5/31/2010
Bowles	Jimmy	Inspector	2089	11/30/2010
Brokaw	Dan	Inspector	901	5/31/2012
Carroll	Curtis	Inspector	1966	11/30/2010
Carper	Steve	Inspector	1965	11/30/2010
Fowler	Bill	Inspector	3740	11/30/2010
Fuller	RG	Inspector	3848	11/30/2010
Holland	Dale	Inspector	1945	5/31/2010
Peters	Bruce	Inspector	3469	5/31/2012
Waldron	Larry	Inspector	3930	5/31/2011
Wimmer	Randy	Inspector	1934	5/31/2010
Yates	Morgan	Inspector	1929	5/31/2010
Peters	Bruce	SW/BMP Inspection/Maint	815	None

STORMWATER MANAGEMENT FACILITIES DATA IN THE TOWN OF VINTON

Permit No. R040026, Reporting Year July 1, 2009 - June 30, 2010

FACILITY ADDRESS	BMP TYPE	HUC	IMPAIRED WATER	NO OF ACRES TREATED
3rd Street/Chestnut St.	Detention Pond	RU 13	Tinker Creek	151
1092 Bypass Road	Detention Pond	RU13	Glade Creek	19.8
1135 Vinyard Road	Detention Pond	RU 13	Tinker Creek	8.53
970 Hardy Road	Retention Pond	RU 13	Glade Creek	1.23
1000 Hardy Road	Retention Pond	RU 13	Glade Creek	1.44
845 3rd Street	Retention Pond	RU 13	Tinker Creek	1.92
1022 Hardy Road	Detention Pond	RU 13	Glade Creek	2.18
1781 Meadows Road	Retention Pond	RU 14	(Wolf Creek - NI)	19.69
1836 Meadows Court	Retention Pond	RU 14	(Wolf Creek - NI)	6.14
120 W. Virginia Avenue	Retention Pond	RU 13	Tinker Creek	1.75
935 Third Street	Retention Pond	RU 13	Tinker Creek	2.14
910 Hardy Road	Underground Facility	RU 13	Glade Creek	1.1
415 S. Pollard Street	Retention Pond	RU 13	Glade Creek	2.68
1003 Hardy Road	Underground Facility	RU 13	Glade Creek	0.89
1301 Hardy Road	Detention Pond	RU 14	(Wolf Creek - NI)	1
1329 Hardy Road	Detention Pond	RU 14	(Wolf Creek - NI)	1
600 S. Pollard Street	Underground Facility	RU 13	Glade Creek	0.31
865 Industry Circle	Retention Pond	RU 13	Tinker Creek	2.24
119 E. Cleveland Ave.	Underground Facility	RU 13	Glade Creek	0.72
1002 Ruddell Road	Retention Pond	RU 13	Glade Creek	12
101 Highland Road	Retention Pond	RU 13	Glade Creek	0.87
1129 Mountain View Rd	Underground Facility	RU 13	Glade Creek	0.31
1131 Mountain View Rd	Underground Facility	RU 13	Glade Creek	0.34
1209 Mountain View Rd	Underground Facility	RU 13	Glade Creek	0.36
1213 Mountain View Rd	Underground Facility	RU 13	Glade Creek	0.4
1217 Mountain View Rd	Underground Facility	RU 13	Glade Creek	0.44
1221 Mountain View Rd	Underground Facility	RU 13	Glade Creek	0.5
1225 Mountain View Rd	Underground Facility	RU 13	Glade Creek	0.54
1235 Mountain View Rd	Underground Facility	RU 13	Glade Creek	0.35
100 Tobias Road	Detention Pond	RU 13	Glade Creek	5.97
209 Minnie Bell Lane	Underground Facility	RU 13	Glade Creek	0.13
213 Minnie Bell Lane	Underground Facility	RU 13	Glade Creek	0.3
217 Minnie Bell Lane	Underground Facility	RU 13	Glade Creek	0.28
221 Minnie Bell Lane	Underground Facility	RU 13	Glade Creek	0.38
225 Minnie Bell Lane	Underground Facility	RU 13	Glade Creek	0.21
224 Minnie Bell Lane	Underground Facility	RU 13	Glade Creek	0.19
220 Minnie Bell Lane	Underground Facility	RU 13	Glade Creek	0.17
420 Pine Street	Detention Pond	RU 13	Glade Creek	3.3
814 Washington Avenue	Detention Pond	RU 13	Glade Creek	11.27
940 3rd Street	Retention Pond	RU 13	Tinker Creek	1.43
801 Virginia Avenue	Retention Pond	RU 13	Glade Creek	2.62
1130 Hardy Road	Retention Pond	RU 13	Glade Creek	3.07
Wyndham Dr/Saunja Ln	Detention Pond	RU 14	Roanoke River	12.34
Saunja Lane	Detention Pond	RU 14	Roanoke River	1.01
Saunja Court	Detention Pond	RU 14	Roanoke River	4.74
401 Washington Avenue	Underground Facility	RU 13	Glade Creek	0.687

STORMWATER MANAGEMENT FACILITIES IN THE TOWN OF VINTON

FACILITY NAME	FACILITY OWNER	FACILITY ADDRESS	TAX MAP #	SWM BMP TYPE	YR BUILT
Town SW Detention Basin	Town of Vinton	3rd Street/Chestnut St.	70.08-1-1.8	Detention Pond	1986
River Park Shopping Center	McAdams Norman Properties	1092 Bypass Road	61.13-4-13.2	Retention Pond	1988
Brabham Off-Site Pond	Lancerlot Sports Complex LC	1135 Vinyard Road	60.20-3-81.3	Detention Pond	1997
First Citizens Bank	First Citizens Bank & Trust Co.	970 Hardy Road	61.17-1-8	Retention Pond	1997
Rite Aid Vacant Building	Wolverine Property Co. Trust	1000 Hardy Road	61.17-1-11	Retention Pond	1997
M & W Fire Apparatus	ROWM Company, Inc.	845 3rd Street	70.07-1-8	Retention Pond	1997
CVS Drugstore	Blue Gem Inc.	1022 Hardy Road	61.17-1-18	Detention Pond	1998
Meadows Subdivision #1	David and Judy Nuckolls	1781 Meadows Road	61.10-7-27	Retention Pond	2000
Meadows Subdivision #2	David and Lynn Glovier	1836 Meadows Court	61.10-7-53	Retention Pond	2000
Wachovia Bank	First Union National Bank of VA	120 W. Virginia Avenue	60.15-6-45	Retention Pond	2000
Pennington Crown & Bridge Lab	Staley and Carolyn Pennington	935 Third Street	70.08-1-1.11	Retention Pond	2000
Speedee Oil Change	FTB LLC	910 Hardy Road	60.20-7-33	Underground Facility	2000
Carilion/Parkway Physicians	Carilion Clinic Properties, LLC	415 S. Pollard Street	60.15-6-17	Retention Pond	2002
Valley Bank	Valley Bank	1003 Hardy Road	61.17-3-8	Underground Facility	2002
Hardy Road #1 (Town of Vinton)	Commonwealth of Virginia DOT	Hardy Road	61.18-4-2	Detention Pond	2004
Hardy Road #2 (Town of Vinton)	Commonwealth of Virginia DOT	Hardy Road	61.18-4-7.2	Detention Pond	2004
Jessup Medical Office	Neal and Tammy Jessup	600 S. Pollard Street	60.19-3-21	Underground Facility	2004
Kraft Foods Ware/Freezer	Crestwood of Virginia, LLC	865 Industry Circle	70.07-1-11	Retention Pond	2004
Cundiff Drugstore/Restaurant	Cundiff Properties, LLC	119 E. Cleveland Ave.	60.16-9-2	Underground Facility	2004
Herman L. Horn Elem.School	Roanoke County School Board	1002 Ruddell Road	61.09-2-26	Retention Pond	2005
Steve's Automotive	Thomas and Terri St. Clair	101 Highland Road	60.11-4-27	Retention Pond	2005
James B. Smith Subdivision	Lindsay Jayne Valentine	1129 Mountain View Rd	61.13-1-6	Underground Facility	2005
James B. Smith Subdivision	Lisa Via Chaney	1131 Mountain View Rd	61.13-1-6.2	Underground Facility	2005
James B. Smith Subdivision	Gloria Jean Frazier	1209 Mountain View Rd	61.13-1-21.1	Underground Facility	2005
James B. Smith Subdivision	Merita H. Etue	1213 Mountain View Rd	61.13-1-22.1	Underground Facility	2005
James B. Smith Subdivision	Thomas and Judy Tavela	1217 Mountain View Rd	61.13-1-23.1	Underground Facility	2005
James B. Smith Subdivision	Bonnie L. Conner	1221 Mountain View Rd	61.13-1-23.2	Underground Facility	2005
James B. Smith Subdivision	Jack and Joy Shepp	1225 Mountain View Rd	61.13-1-23.3	Underground Facility	2005
James B. Smith Subdivision	Jeffrey Davis and James Staton	1235 Mountain View Rd	61.13-1-24.1	Underground Facility	2005
Lewis Russell Estates	Lewis Russell Estates HOA	100 Tobias Road	61.14-5-26	Detention Pond	2005
Lewis Russell Estates # T1	Allan and Josephine Floro	209 Minnie Bell Lane	61.14-5-20	Underground Facility	2005
Lewis Russell Estates # T2	Uldine Rae Haga	213 Minnie Bell Lane	61.14-5-19	Underground Facility	2005
Lewis Russell Estates # T3	Kynn Deadrick & Jessica St. Clair	217 Minnie Bell Lane	61.14-5-18	Underground Facility	2005
Lewis Russell Estates # T4	Todd and Lisa Smith	221 Minnie Bell Lane	61.14-5-17	Underground Facility	2005
Lewis Russell Estates # T5	Roger Beverly	225 Minnie Bell Lane	61.14-5-16	Underground Facility	2005

STORMWATER MANAGEMENT FACILITIES IN THE TOWN OF VINTON

FACILITY NAME	FACILITY OWNER	FACILITY ADDRESS	TAX MAP #	SWM BMP TYPE	YR BUILT
Lewis Russell Estates # T6	Justin Arrington	224 Minnie Bell Lane	61.14-5-15	Underground Facility	2005
Lewis Russell Estates # T7	Carrie Dase & Ronda L. Krogman	220 Minnie Bell Lane	61.14-5-14	Underground Facility	2005
Peebles Place Townhomes	Peebles Place HOA, Inc.	420 Pine Street	60.20-6-12	Detention Pond	2006
Vinton War Memorial	Town of Vinton	814 Washington Avenue	60.16-6-33	Detention Pond	2006
Wiley Development	H & S Leasing, LLC	940 3rd Street	70.08-1-1.9	Retention Pond	2006
Life Tabernacle Church	Life Tabernacle Church	801 Virginia Avenue	60.20-5-52.1	Retention Pond	2006
Campbell Memorial Pre. Church	Campbell MP Church	1130 Hardy Road	61.17-1-45	Retention Pond	2007
A. Porter's Haven Senior Hsg #1	Parree Porter Sr Housing, Inc.	Wyndham Dr/Saunja Ln	70.08-1-1.13	Detention Pond	2009
A. Porter's Haven Senior Hsg #2	Parree Porter Sr Housing, Inc.	Saunja Lane	70.08-1-1.13	Detention Pond	2009
A. Porter's Haven Senior Hsg #3	Parree Porter Sr Housing, Inc.	Saunja Court	70.08-1-1.13	Detention Pond	2009
Advance Auto Parts	Advance Stores Company, Inc.	401 Washington Avenue	60.16-5-18	Underground Facility	2009

STORMWATER MANAGEMENT/BMP FACILITIES MAINTENANCE AGREEMENT

THIS AGREEMENT, made and entered into this ____ day of _____, 20___, between _____,
(Insert Full Name of Company/Corporation/Partnership Name)

hereinafter called the "Landowner" or "Responsible Party", and the Town Council of the Town of Vinton, Virginia, hereinafter called the "Town". WITNESSETH, that WHEREAS, the Landowner is the owner of certain real property described as:

_____,
(Roanoke County Tax Map/Parcel Identification Number)

_____,
(Roanoke County Tax Map/Parcel Identification Number)

_____,
(Roanoke County Tax Map/Parcel Identification Number)

hereinafter called the "Property"; and

WHEREAS, the Site Plan/Subdivision Plan known as

_____,
(Name of Plan/Development)

hereinafter called the "Plan", which is expressly made a part hereof, as approved or to be approved by the Town, provides for treatment of stormwater within the confines of the property; and

WHEREAS, the tract(s) of land noted above are identified as areas of stormwater management and/or water quality BMP's (Best Management Practices) and their accompanying structures; and

WHEREAS, a plat dated _____ prepared by _____, and approved by Town of Vinton identifying such areas is attached hereto for reference; and

WHEREAS, the stormwater facilities maintenance schedule for such areas is attached hereto for reference; and

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

WHEREAS, the Town and the Landowner, its successors and assigns, including any homeowners association, agree that the health, safety, and welfare of the residents of Town of Vinton, Virginia, require that on-site stormwater management/BMP facilities be constructed and maintained on the Property; and

WHEREAS, the Town requires that on-site stormwater management/BMP facilities as shown on the Plan be constructed and adequately maintained by the Landowner, its successors and assigns, including any homeowners association.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The on-site stormwater management/BMP facilities shall be constructed by the Landowner, its successors and assigns, in accordance with the plans and specifications identified in the Plan.

2. The Landowner, its successors and assigns, including any homeowners association, shall adequately maintain the stormwater management/BMP facilities. This includes all pipes and channels built to convey stormwater to the facility, as well as all structures, improvements, and vegetation provided to control the quantity and quality of the stormwater. Adequate maintenance is herein defined as good working condition so that these facilities are performing their design functions.

3. The Landowner, its successors and assigns, shall periodically inspect the stormwater management BMP facilities. The purpose of the inspection is to assure safe and proper functioning of the facilities. The inspection shall cover the entire facilities, berms, outlet structure, pond areas, access roads, etc. Deficiencies shall be noted in the inspection report.

4. The Landowner, its successors and assigns, shall document all inspections, maintenance activities and repairs that are performed on the stormwater management BMP facilities. Documents shall be maintained for a minimum period of five (5) years and they shall be submitted in accordance with the Town of Vinton Stormwater Management Ordinance. Each year before December 31st the property owner or responsible party shall mail to the Town copies of the documentation for all inspection and maintenance activities that occurred during that year. This information shall be mailed to: Town of Vinton Planning and Zoning Department, 311 South Pollard Street, Vinton, VA 24179, Attention: Planning and Zoning Director (BMP Inspection and Maintenance Records).

5. The Landowner, its successors and assigns, hereby grant permission to the Town, its authorized agents and employees, to enter upon the Property and to inspect the stormwater management/BMP facilities periodically and whenever the Town deems necessary. The purpose of inspection is to verify that proper maintenance is occurring and/or to follow-up on reported deficiencies and/or to respond to citizen complaints. The Town shall provide the Landowner, its successors and assigns, copies of the inspection findings and a directive to commence with the maintenance or repairs if necessary.

6. In the event the Landowner, its successors and assigns, fails to maintain the stormwater management/BMP facilities in good working condition acceptable to the Town, the Town may enter upon the Property and take whatever steps necessary to correct deficiencies identified in the inspection report and to charge the costs of such repairs to the Landowner, its successors and assigns. This provision shall not be construed to allow the Town to erect any structure of permanent nature on the land of the Landowner outside of the easement for the stormwater management/BMP facilities. It is expressly understood and agreed that the Town is under no obligation to routinely maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Town.

7. The Landowner, its successors and assigns, will perform the work necessary to comply with the attached maintenance schedule, including sediment removal, and as otherwise required to keep these facilities in good working order as appropriate.

8. In the event the Town pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner, its successors and assigns, shall reimburse the Town upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the Town hereunder.

9. This Agreement imposes no liability of any kind whatsoever on the Town and the Landowner agrees to hold the Town harmless from any liability in the event the stormwater

management/BMP facilities fail to operate properly.

10. This Agreement shall be recorded among the land records of Roanoke County, Virginia, and shall constitute a covenant running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and any other successors in interests, including any homeowners association.

IN WITNESS of all which the parties hereto have caused this agreement to be executed on their behalf.

Legal Names:

Principal

Developer: _____
(Insert Full Name of Company/Corporation/Partnership Name)

By: _____ (SEAL)
(Duly Authorized Officer Signature)

As: _____(TITLE)
(Duly Authorized Officer Title)

Notary Statement:

State of: _____:

County/City of: _____, to wit:

The foregoing instrument was acknowledged before me this:

_____, day of _____, 20 _____,

By: _____ as _____
(Duly Authorized Officer Printed Name) (Duly Authorized Officer Printed Title)

on behalf of _____
(Insert Full Name of Company/Corporation/Partnership Name)

_____ / _____
(Notary Public Signature) (Notary Public Printed Name)

My Commission expires: _____ Registration #_____

Approved as to Form:

Town Council of
Town of Vinton, Virginia

_____
Town Attorney

By: _____(SEAL)
Christopher S. Lawrence
Town Manager

State of: Virginia :

County/City of: Roanoke, to wit:

The foregoing instrument was acknowledged before me this:

_____, day of _____, 20_____,

by Christopher S. Lawrence, Town Manager, on behalf of the Town Council of Town of Vinton, Virginia.

_____ / _____
(Notary Public Signature) (Notary Public Printed Name)

My Commission expires: _____ Registration #_____

STORMWATER MANAGEMENT AND BMP FACILITIES MAINTENANCE SCHEDULE

Tax Map/Parcel Identification Number:_____

_____

_____

Deed Book/Page Number:_____

Name of Plan/Development:_____

List of BMP Types and Number of Facilities:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

(Type of BMP) (Number of Facilities of Listed Type)

PROVIDE COMPLETE MAINTENANCE SCHEDULE FOR EACH BMP TYPE. IF NECESSARY, EXPAND TYPICAL SCHEDULE.

BMP Type: _____

Required Action	Maintenance Objective	Frequency of Action
Inspections		
Vegetation Management		
Slope, Embankment, and Outlet Stabilization		
Debris and Litter Control		
Mechanical Components		
Insect Control		
Access Road and Area Maintenance		
Sediment and Pollutant Removal		
Component Repair and Replacement		
Other		

TOWN OF VINTON, VIRGINIA
Stormwater Management BMP
Inspection Checklist

Inspector Name:_____
Inspection Date: _____

Site Address/Project Name:_____

Watershed:_____ Tax Map or Parcel ID No:_____

Maintenance Agreement: YES/NO As-built Plans: YES/NO Site Plans: YES/NO

Type of Stormwater BMP or Structure

☐ Pond (Dry Pool) ☐ Pond (Permanent Pool)

☐ Underground Detention

☐ Other (Describe) _____

Item Inspected	Maintenance REQ'D (Y/N)	Observations/Remarks
Embankment (*Image # _____)		
Are there signs of settling, cracking, bulging, or other structural deterioration?		
Is there woody vegetation growth that may interfere with the stability of the embankment?		
Are there signs of erosion?		
Is there evidence of animal burrows or sink holes?		
Are there bare areas that need seeding or sodding?		
Is there evidence of oil or other pollutant spills?		
Riser/Outlet Control Structure (*Image # _____)		
Is the structure clean of debris and sediment, free of damage, and in working order?		
Is the emergency spillway clear of obstructions, debris, and vegetation?		
Is there evidence of seepage?		

Receiving Channel/Outflow Channel (*Image#_____)		
Is there accumulation of sediment, debris, or trash?		
Is there evidence of erosion?		
Is there vegetation growth that may interfere with flow?		
Culverts, Storm Drains, or other Inflow Channels		
Inflow Point 1 (*Image #_____)		
Is the storm drain filled more than 25% with debris, sediment, or trash?		
Is there evidence of structural failure of the culvert pipe?		
Is there evidence of erosion?		
Are there signs of settling, cracking, or misalignment of the storm drain pipe?		
Inflow Point 2 (*Image #_____)		
Is the storm drain filled more than 25% with debris, sediment, or trash?		
Is there evidence of structural failure of the culvert pipe?		
Is there evidence of erosion?		
Are there signs of settling, cracking, or misalignment of the storm drain pipe?		
Inflow Point 3 (*Image #_____)		
Is the storm drain filled more than 25% with debris, sediment, or trash?		
Is there evidence of structural failure of the culvert pipe?		
Is there evidence of erosion?		
Are there signs of settling, cracking, or misalignment of the storm drain pipe?		
Basin (*Image #_____)		
Is there accumulation of debris, litter, or sediment?		
(For dry detention ponds) Is there standing water in the pond?		
Are there bare areas which need seeding or sodding?		
Do the vegetated areas need mowing or is there a build up of clipping that could clog the facility?		

(For wet ponds) Is there excessive algae growth or other vegetation?		
Is there evidence of oil or other pollutants in the pond?		
Do any of the safety devices, fences, gates, or locks need repair?		
Other		
Is there sediment, debris, litter, oil, or trash that needs to be cleared for aesthetic or functional reasons?		
Is there standing water where there should not be standing water?		
Is there structural damage to concrete structures?		
Are there signs of erosion at the entrance or exit?		
Are valves, sluice gates, and other mechanical devices operational?		
Has adequate access to the pond been provided?		

***See attached photos of each inspected item.**

Overall Pond Rating (Adequate/Inadequate):_____

Signature of Inspector:_____

NOTE TO PROPERTY OWNER: THE INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ALL FACILITIES SHALL BE INSPECTED ANNUALLY. A REPORT DOCUMNETING THE INSPECTION RESULTS AND POND MAINTENANCE ACTIVITIES SHALL BE SUMBITTED TO THE TOWN OF VINTON ON OR BEFORE DECEMBE 31 OF EACH CALENDAR YEAR.

PLEASE SEND INSPECTION REPORTS TO THE FOLLOWING ADDRESS:

Town of Vinton Planning and Zoning Department
311 South Pollard Street
Vinton, VA 24179
Phone: 540-983-0601
Fax: 540-983-0621
Attention: Planning and Zoning Director (BMP Inspection and Maintenance Records)

Stormwater Report

July 1, 2009 - June 30, 2010

Date of Service	Location	Work Hours	Total Labor	Total Equipment
Date: 7/1/09	Cleaned concrete forms	16	$ 453.04	$ 75.68
Date: 7/8/09	Storm Drain Hill & 10th	19	$ 537.99	$ 523.98
Date: 7/9/09	Storm Drain Hill & 10th	24	$ 661.52	$ 214.96
Date: 7/13/09	C & G 724 & 728 Spruce	24	$ 661.52	$ 465.76
Date: 7/13/09	Clean drains on Pollard Street	3	$ 85.96	$ 9.46
Date: 7/14/09	C & G 724 & 728 Spruce	24	$ 661.52	$ 214.96
Date: 7/15/09	C & G 724 & 728 Spruce	24	$ 661.52	$ 75.68
Date: 7/16/09	C & G 724 & 728 Spruce	24	$ 661.52	$ 110.50
Date: 7/17/09	C & G 724 & 743 Spruce	24	$ 661.52	$ 214.96
Date: 7/20/09	Cleaned Storm Drains	24	$ 606.64	$ 75.68
Date: 7/21/09	C & G 724 & 743 Spruce	24	$ 661.52	$ 277.66
Date: 7/22/09	C & G 724 & 743 Spruce	15	$ 413.45	$ 197.05
Date: 7/23/09	C & G 724 & 743 Spruce	24	$ 661.52	$ 201.08
Date: 7/24/09	Repair Drainbox -Poplar & Washington	9	$ 227.49	$ 201.60
Date: 7/24/09	Drain Box 755 Spruce Street	24	$ 661.52	$ 277.66
Date: 7/27/09	Drain Box 755 Spruce Street	18	$ 496.14	$ 56.76
Date: 7/27/09	C & G 514, 515, 521, 526 E. Augusta	8.25	$ 227.40	$ 102.03
Date: 7/28/09	Storm Drain 755 Spruce Street	6	$ 165.38	$ 81.62
Date: 7/29/09	C & G 526 E. Augusta	24.75	$ 687.95	$ 173.20
Date: 8/11/09	526 E. Augusta -C&G	12	$ 330.76	$ 138.83
Date: 8/12/09	E Cleveland & Blair -Storm Drain	24	$ 661.52	$ 309.01
Date: 8/13/09	526 E. Augusta -C&G	24	$ 661.52	$ 75.68
Date: 8/14/09	526 E. Augusta -C&G	15	$ 413.45	$ 134.35
Date: 8/17/09	224 W. Va Ave & 526 E. Augusta-C & G	9	$ 257.88	$ 156.75
Date: 8/17/09	E Cleveland & Blair -Storm Drain	15	$ 413.45	$ 291.10
Date: 8/18/09	E Cleveland & Blair -Storm Drain	24	$ 661.52	$ 277.66
Date: 8/19/09	514 & 515 E. Augusta -C&G	24	$ 661.52	$ 340.36
Date: 8/20/09	514 & 515 E. Augusta -C&G	24	$ 661.52	$ 139.28
Date: 8/21/09	514 & 515 E. Augusta -C&G	21.5	$ 608.05	$ 214.96
Date: 8/24/09	419, 514 & 515 E. Augusta -C&G	24	$ 661.52	$ 465.76
Date: 8/25/09	419, 514 & 515 E. Augusta -C&G	15	$ 413.45	$ 134.35
Date: 8/26/09	419 E. Augusta -C&G	24	$ 661.52	$ 214.96
Date: 8/27/09	419 E. Augusta -C&G	24	$ 661.52	$ 214.96
Date: 8/28/09	Crestview, 419 E. Augusta, E. Cleveland & Blair-C&G	12	$ 330.76	$ 107.48
Date: 8/28/09	Storm Drain - Lynn Haven Cir.	12	$ 330.76	$ 232.88
Date: 9/28/09	Drainage Ditch-705 Morrison Ave	24	$ 661.52	$ 465.76
Date: 9/29/09	Drainage Ditch-705 Morrison Ave	22	$ 618.74	$ 221.96
Date: 9/30/09	Drainage Ditch-705 Morrison Ave	24	$ 661.52	$ 465.76
Date: 10/2/09	Asphalt Berm - Mt. View	12	$ 303.32	$ 530.88
Date: 10/7/09	Clean out gutter-W. Cleveland	3	$ 85.96	$ 40.81
Date: 10/27/09	Check Drain Inlets - Flooding Conditions	12	$ 303.32	$ 37.84
Date: 11/12/09	Clean Storm Drains	24	$ 661.52	$ 75.68
Date: 11/23/09	Clean Storm Drains	16	$ 490.40	$ 75.68
Date: 11/23/09	Clean Storm Drains	24	$ 532.24	$ 75.68
Date: 12/2/09	Storm Drains	22	$ 618.74	$ 75.68
Date: 12/10/09	MG Krete C&G Coolbrook & Pine	6	$ 165.38	$ 18.92
Date: 12/11/09	MG Krete C&G Coolbrook & Pine	21	$ 597.35	$ 75.68
Date: 1/19/10	Check storm Dls downtown	6	$ 151.66	$ 18.92
Date: 1/25/10	Open storm inlets: Downtown, 3rd & Bowman	16	$ 426.32	$ 75.68
Date: 1/26/10	Open storm drain in parking lot Dale & 7th	12	$ 303.32	$ 37.84
Date: 1/27/10	Storm Drain - Lynn Haven	12	$ 330.76	$ 107.48
Date: 1/27/10	Opened drainage pipe at Dale and 7th	15	$ 379.15	$ 47.30
Date: 1/28/10	Clean Drop Inlets in Midway	6	$ 151.66	$ 53.74
Date: 2/3/10	Clean Storm Drains	6	$ 142.35	$ 28.38
Date: 2/10/10	Checking stormdrains for debris/snow.	6	$ 131.19	$ 28.38
Date: 2/22/10	Drain Box - Wyndham & Southampton	24	$ 661.52	$ 93.64
Date: 2/23/10	Dig for new D.I. on Southampton	15	$ 332.65	$ 47.30
Date: 2/24/10	Drain Box - Wyndham & Southampton	24	$ 661.52	$ 309.01
Date: 3/1/10	Wyndham & S. Hampton Storm Drain	24	$ 661.52	$ 75.68
Date: 3/2/10	Assisting with Drainage Project	12	$ 266.12	$ 37.84
Date: 3/2/10	Wyndham & S. Hampton Storm Drain	20.5	$ 538.18	$ 75.68
Date: 3/3/10	Wyndham & S. Hampton Storm Drain	24	$ 661.52	$ 368.24
Date: 3/4/10	Wyndham & S. Hampton Storm Drain	24	$ 661.52	$ 309.01
Date: 3/5/10	Wyndham & S. Hampton Storm Drain	22	$ 591.04	$ 263.78
Date: 3/5/10	Flagging w/Wyndham & S. Hampton Storm Drain	3	$ 71.93	$ 9.71
Date: 3/8/10	Wyndham & S. Hampton Storm Drain	26.25	$ 723.54	$ 80.41
Date: 3/9/10	Wyndham & S. Hampton Storm Drain	15	$ 413.45	$ 47.30

Stormwater Report
July 1, 2009 - June 30, 2010

Date of Service	Location	Work Hours	Total Labor	Total Equipment
Date: 3/15/10	Wyndham & S. Hampton Storm Drain	24	$ 661.52	$ 309.01
Date: 3/16/10	Storm Box - 706 Olney	5.5	$ 166.28	$ 150.28
Date: 3/17/10	Storm Box - 706 Olney	24	$ 661.52	$ 75.68
Date: 3/18/10	Storm Box - 706 Olney	10	$ 306.50	$ 47.30
Date: 3/18/10	Wyndham & S. Hampton Storm Drain	6	$ 183.90	$ 80.61
Date: 3/19/10	Clean Storm Drain Inlets	15	$ 379.15	$ 47.30
Date: 3/19/10	Storm Box - 706 Olney	16	$ 490.40	$ 286.64
Date: 3/23/10	Storm Box - 706 Olney	24	$ 661.52	$ 295.62
Date: 3/24/10	Storm Box - 706 Olney	24	$ 661.52	$ 214.96
Date: 3/25/10	631 Timberidge Road - Storm Drain Pipe	4.5	$ 124.04	$ 40.81
Date: 3/25/10	Storm Box - 706/709 Olney	23	$ 637.80	$ 201.53
Date: 3/26/10	Timberidge Road - Storm Drain Pipe	12	$ 330.76	$ 163.24
Date: 3/26/10	Clean Storm Drains	28	$ 687.89	$ 66.22
Date: 3/29/10	Storm Box - 706/709 Olney	18	$ 496.14	$ 56.76
Date: 3/30/10	Storm Box - 706/709 Olney	24	$ 661.52	$ 465.76
Date: 4/1/10	1567 & 1568 S. Pacific - Storm Drain	24	$ 661.52	$ 465.76
Date: 4/2/10	1567 & 1568 S. Pacific - Storm Drain	12	$ 339.78	$ 349.32
Date: 4/5/10	1573 S. Pacific - Storm Drain	24	$ 661.52	$ 214.96
Date: 4/6/10	1568 & 1573 S. Pacific - Storm Drain	24	$ 661.52	$ 214.96
Date: 4/7/10	1568 S. Pacific - Storm Drain	26.25	$ 723.54	$ 80.41
Date: 4/8/10	1568 & 1573 S. Pacific - Storm Drain	18	$ 496.14	$ 161.22
Date: 4/9/10	1568 & 1573 S. Pacific - Storm Drain	24	$ 661.52	$ 283.60
Date: 4/9/10	Remove gravel on road edge at 9th St.	3	$ 85.96	$ 17.41
Date: 4/14/10	221 Minnie Bell	12	$ 330.76	$ 37.84
Date: 4/16/10	221 Minnie Bell	6	$ 183.90	$ 174.66
Date: 4/19/10	Storm Pipe-639 Timberidge	6	$ 183.90	$ 122.43
Date: 4/20/10	Storm Pipe-639 Timberidge	9	$ 248.07	$ 80.61
Date: 5/4/10	Olney Rd & Bali Hai - Drain Box	24	$ 661.52	$ 75.68
Date: 5/5/10	1506 Bali Hai & Olney Rd-Drain Box & C&G	24	$ 661.52	$ 340.36
Date: 5/6/10	1506 Bali Hai & Olney Rd - Drain Box	9	$ 248.07	$ 28.38
Date: 5/7/10	1506 Bali Hai & Olney Rd-Drain Box & C&G	26.25	$ 723.54	$ 80.41
Date: 5/10/10	1506 Bali Hai & Olney Rd - Drain Box	24	$ 661.52	$ 214.96
Date: 5/14/10	1044 Halliahurst - Remove broken curbing	6	$ 165.38	$ 50.27
Date: 5/18/10	1144 Halliahurst - Curbing	12	$ 330.76	$ 232.88
Date: 5/19/10	1144 Halliahurst - Curbing	15	$ 413.45	$ 47.30
Date: 5/20/10	1144 Halliahurst - Curbing	15	$ 413.45	$ 291.10
Date: 5/21/10	C&G: Olney & Bali Hai	24	$ 661.52	$ 196.55
Date: 5/24/10	Check drop inlets - town wide	18	$ 454.98	$ 56.76
Date: 5/24/10	Drain box - Olney Rd & Bali Hai Dr	24	$ 661.52	$ 465.76
Date: 5/25/10	Drain box - Olney Rd & Bali Hai Dr	24	$ 661.52	$ 309.01
Date: 5/26/10	Drain box - Olney Rd & Bali Hai Dr	16	$ 453.04	$ 214.96
Date: 5/27/10	Drain box - Olney Rd & Bali Hai Dr	16	$ 453.04	$ 75.68
Date: 5/28/10	Drain box - Olney Rd & Bali Hai Dr	16	$ 453.04	$ 158.20
Date: 6/8/10	Drain box - Olney Rd & Bali Hai Dr	15	$ 413.45	$ 134.35
Date: 6/9/10	Drain box - Olney Rd & Bali Hai Dr	6	$ 165.38	$ 81.62
Date: 6/9/10	Storm Drain 318 & 322 Lee Street	18	$ 496.14	$ 349.32
Date: 6/10/10	Storm Drain 318 & 322 Lee Street	24	$ 661.52	$ 465.76
Date: 6/11/10	Storm Drain 318 & 322 Lee Street	26.25	$ 723.54	$ 80.41
Date: 6/14/10	Storm Drain - 318 & 322 Lee Street	24	$ 661.52	$ 340.36
Date: 6/15/10	Storm Drain Pipe-405 E. Jackson	24	$ 661.52	$ 465.76
Date: 6/30/10	Cleaned Drain Pipe @Ruddell & Preston	8	$ 245.20	$ 163.24
	Totals:	**2,070.00**	**$ 56,661.46**	**$ 20,898.27**

Materials through June '10

$ 13,147.58

July 1, 2009 - June 30, 2010

	Work Hours	Total Labor	Total Equipment
Street Sweeping Account (200.4202)	$ 42,111.40		
Hours Sweeping:	$ 1,207.00	$ 63.77	$ 76,970.39
	(Equip. Hours	*x Equip. Rate) =*	*Total Equip. Cost*
Wages & Equip. Cost of Leaf Collection:	$ 15,707.62		

***Grand Total All Drainage Services/Equip./Materials:* $ 225,496.72**