



## **County of Roanoke, Virginia**

**VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VPDES)  
GENERAL PERMIT REGISTRATION STATEMENT  
FOR STORMWATER DISCHARGES  
FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS  
[VAR040]**

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**March 2003**

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Executive Summary:

**Storm Water Management Program: County of Roanoke, Virginia.**

Polluted stormwater runoff is a leading cause of impairment to nearly 40 percent of surveyed U.S. water bodies that do not meet water quality standards.

Overland or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. When left uncontrolled, this water pollution can result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) Stormwater Program is a comprehensive, two-phased national program for addressing the urban sources of stormwater discharges that adversely affect the quality of our Nation's waters. This program uses the NPDES permitting mechanism to require the implementation of stormwater management controls designed to minimize surface water pollution caused by urban stormwater.

Under Phase I of NPDES, large municipalities and urbanized counties (population centers over 100,000 people) were required to comply with the Clean Water Act. Now during Phase II, smaller counties and municipalities within defined "Urbanized Areas" need to comply with stormwater management regulations no later than March 10, 2003. The U.S. Census Bureau has defined an Urbanized Area (UA) as "a land area comprising one or more places – central place(s) – and the adjacent densely settled surrounding area – urban fringe – that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile." (1) Under Phase II, the Environmental Protection Agency (EPA) has identified Roanoke County (including the Town of Vinton) as a community operating a small municipal separate storm sewer system (MS4) within an UA based on the 1990 Census. The definition of a small MS4 is found in 40 CFR under § 122.26(b)(8). In the Commonwealth of Virginia, the Department of Environmental Quality (VDEQ) is the designated NPDES permitting authority. The final rule for the NPDES Phase II program was published in the Federal Register on December 8, 1999 and was subsequently incorporated into the VPDES Permit Regulation (9VAC25-31-10 et seq.) in Virginia on September 27, 2000 (2). VDEQ is currently in the process of drafting the proposed General Permit for the Discharge of Stormwater from a Small MS4 through the work of a Technical Advisory Committee comprised of stakeholders from around the State. While VDEQ has indicated that regulated municipalities will have an option of applying for an individual permit, communities are being encouraged to pursue coverage under the State's general permit. The draft general permit is likely to be released in the latter half of 2002 and must be issued in final form no later than December 8, 2002.

Stormwater Phase II Final Rule, Urbanized Areas: Definition and Description,

1 EPA 833-F-00-004, December 1999, Fact Sheet 2.2.

2 Virginia Register of Regulations, Volume 16, Issue 25, p.3252.

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**County Of Roanoke**  
**VPDES Phase II Registration Statement**

Roanoke County lies along the Roanoke River in the southern portion of the Shenandoah Valley in southwestern Virginia. The county spans the valley between the Blue Ridge Mountains (to the southeast) and Appalachian range (to the northwest). Lying within the Roanoke River watershed, the County's natural topography and geography is dominated by the mountains and hills that surround the valley space in which the Town of Vinton, the City of Roanoke and the City of Salem are located. The Roanoke River splits the County from west to east; additional major tributaries include Masons Creek, Tinker Creek, Mudlick Creek and Back Creek. The Town of Vinton lies east of the City of Roanoke along the Roanoke River. The general topography of the region has made management of the quantity of stormwater an important issue for all of the Roanoke Valley communities. Damaging floods are possible, with the last major flood occurring in 1985.

With the designation of Roanoke County as a NPDES Phase II community, the County and the Town are now required to also address the quality of their stormwater runoff. (Within the Roanoke Valley, the City of Roanoke, the City of Salem and Botetourt County were also designated as Phase II communities.) Under the NPDES Phase II rules, the County and the Town must prepare a stormwater management program (SWMP) with program elements that address the following six technical areas:

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

Since the passage of the Clean Water Act (CWA), the quality of our Nation's waters has improved dramatically. Despite this progress, however, degraded waterbodies still exist. The Virginia Pollutant Discharge Elimination System (VPDES) Stormwater Phase II Final Rule is the next step in the Environmental Protection Agency's (EPA) effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program requires that operators of small Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and operators of small construction sites file general VPDES permits to implement programs and practices to improve the quality of polluted stormwater runoff.

VPDES Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Stormwater discharges from MS4s in urbanized areas are a concern because of the high concentration of pollutants found in these discharges. Concentrated development in urbanized areas substantially increases impervious surfaces, such as County streets, driveways, parking lots, and sidewalks, on which pollutants from concentrated human activities settle and remain until a storm event washes them into nearby storm drains. Common pollutants include pesticides, fertilizers, oils, salt, litter, sediment and other debris. Another concern is the possible illicit connections of sanitary sewers, which can result in bacterial contamination of the storm sewer system and receiving waterways. Stormwater runoff picks up and transports these and other harmful pollutants then discharges them – untreated – to waterways via storm sewer systems. When left uncontrolled, these discharges can result in fish kills, the destruction of spawning and wildlife habitats, a loss in aesthetic value, and contamination of drinking water supplies and recreational waterways that can threaten public health.

The Roanoke River springs from the Jefferson National Forest in Virginia's western mountain highlands, and flows east through Montgomery, Roanoke, Bedford and Franklin Counties, the Cities of Salem and Roanoke and the Town of Vinton, to Smith Mountain Lake and beyond to the Atlantic Ocean. The heart of the Roanoke River corridor is an ageless, fertile valley, a scenic mountain bowl carved between the parallel ridges of the Allegheny and Blue Ridge Mountains. The river cuts perpendicular across two major, north-south routes in the region: I-81 and the Blue Ridge Parkway.

The main-stem of the Roanoke River is formed by the confluence of the North and South Forks. The North Fork drains a portion of the Ridge and Valley physiographic province, while the South Fork drains the western face of the Blue Ridge. The two forks converge at Lafayette, a short distance west of the Roanoke County line. The main-stem continues on through a narrow, steep-walled valley near Glenvar. It then traverses the main valley, picking up many short and steep tributaries as it passes through the cities of Salem and Roanoke. The river follows the western slope of the Blue Ridge to Mill Mountain, where it turns east and enters the Roanoke Gap, a gorge that it cut as the ridge was rising. Once through the Blue Ridge, the river enters the rolling Piedmont province, where it has been impounded to form Smith Mountain Lake.

The mountainous nature of the river headwaters tends to increase the severity of storms and the speed of runoff, making the river subject to flash floods. The sill formed by the Blue Ridge creates a natural settling basin above the gorge, in downtown Roanoke. The natural constriction of the river is exacerbated by manmade structures such as bridges and rail embankments, as well as by

floodplain development along the river's course through the main Roanoke Valley. One result is frequent and extensive flood damage.

On the other hand, the mountainous terrain contributes to the river's scenic and recreational value, and also has positive effects on the river as an aquatic habitat. The cool, well-oxygenated water harbors an unusually wide variety of aquatic life, including trout and the Roanoke logperch, which is listed by the U.S. Fish and Wildlife Service as an endangered species. Riparian vegetation and woodlands help to keep water temperatures down and provide a habitat corridor that allows wildlife to move through the urbanized Roanoke Valley.

The river has also provided a corridor for human movement, which has been an important factor in both the prehistory and history of the Roanoke Valley. Native peoples moved up and down the Great Valley, but also settled at the rich meadows above the mouth of the Roanoke Gorge. Pioneer settlers used this water gap as a route from the Virginia tidewater to the Great Valley and beyond. The railroads followed in the 19th Century, giving Roanoke its main industry for many years. As a result, the river corridor is as rich in prehistoric and historic resources as it is in environmental resources.

The Roanoke metropolitan area, the largest in Virginia west of the "urban crescent" from Washington through Richmond to Tidewater, is also the only major concentration of people and industry in the State to lie so close to the headwaters of a major river. It is the only population center of consequence to be found in the mountainous region west of the Blue Ridge. This location results in a set of environmental, aesthetic, and land use factors unique to the area.

The importance of the river and the urgent need for information on it led to the Roanoke River Corridor Study in 1990. This study included the length of the Roanoke River from its headwater tributaries in Montgomery and Roanoke Counties to the Hardy Ford Bridge, at the upper reaches of Smith Mountain Lake. Participants included the jurisdictions of Bedford, Franklin, Montgomery and Roanoke Counties, the Town of Vinton, and the Cities of Roanoke and Salem. Also included were the Central Virginia, Fifth, New River Valley and West Piedmont planning district commissions.

The study's goals were to produce a report documenting existing conditions in the Roanoke River corridor and to recommend ways in which identified problems, opportunities, and protection needs could be addressed. The final report contains detailed recommendations for policy implementation by the local governments. One important element of the final report is a model Roanoke River Conservation Overlay Zone ordinance. This model ordinance provides a "shell" for each participating jurisdiction to use in developing an ordinance that is specific to the needs, challenges, opportunities and constraints of their jurisdiction. To date, only Roanoke County has adopted this ordinance and incorporated appropriate language into the comprehensive plan.

The County of Roanoke is built around the Roanoke River and the resources it provides. The County's current community plan includes provisions to protect soils, aquatic life and water quality by reducing runoff and erosion. The plan encourages innovation and creativity in site design and, where appropriate, greenways, parks and open space in new sub-divisions. Additionally, the county's vision includes a commitment to reduce flooding and flood damage by protecting floodplains and wetlands, a provision to adopt alternative storm water management techniques and provisions for enhancing existing regulations and enforcement procedures to reduce soil runoff and erosion and provide for the protection of soils, aquatic life and water quality. The County of Roanoke has made a long-term commitment on behalf of the citizens to protect the environment and ensure quality air and water for the citizens of the region. The County places special emphasis on the Roanoke River and its tributaries and has made a strong effort to addressing stormwater management on both the regional and local basis.

In response to the CWA's VPDES Phase II General Permit requirements, the County of Roanoke has developed a comprehensive and proactive Stormwater Management Program. The County's plan includes a strong emphasis on k-12<sup>th</sup> grade education, and adult and professional training in cooperation with Explore Park and the Virginia Department of Transportation. The Stormwater Management Program is built upon a foundation of cooperation with the County's neighborhoods and communities. The plan includes a comprehensive and proactive assessment of the storm sewer system, which includes, drainage system mapping, drainage system maintenance and an in-house education/training component. Major components of the program include development and adoption of ordinances that include water quality assessment in site design and review. These ordinances also include the consideration of water quality Best Management Practices in new development and re-development. Additionally, the plan includes a County commitment to initiate spill prevention plans at County facilities, and to maintain its current drainage system maintenance program.

Strong regional cooperation has been pursued in the areas of education, public involvement and pollution prevention. The County intends to participate in a regional effort to educate the public with public service announcements produced in cooperation with regional partners, promotional videos on storm water education produced by Roanoke Valley Television (RVTV) in cooperation with the Virginia department of Transportation (VDOT) and with continued participation in the Household Hazardous Waste Collection Day. The County will also continue to cooperate in the development of greenways and to consider regional cooperation as the discussion of a regional stormwater utility is pursued. The County intends to provide coordination for annual regional meetings and will continue to cooperate in the regional storm drain stenciling educational project. Continued regional cooperation and discussion will be economically sound, and instrumental in the effective reduction of pollutants into the region's rivers and streams.

The VPDES Phase II regulations are currently not funded at the state or Federal level. The County of Roanoke is making a substantial commitment to this unfunded Federal mandate. Cost projections for the County's Stormwater Management Program are estimated to be one million dollars (\$1,000,000) for the five years of the first permit period. Regional partners are looking at similar implementation costs. Maintenance and fulfillment of this program will need a secure and reliable funding source as the implementation of the program progresses. The initial commitment to develop and establish a comprehensive program that protects the County's stormwater quality has been made and will continue over the permit term to provide the region's citizens with clean water now and well into the future.

**VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VPDES)  
GENERAL PERMIT REGISTRATION STATEMENT FOR STORM WATER  
DISCHARGES  
FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS  
[VAR040]**

(Please Type or Print All Information)

**1. Regulated Small MS4**

Name:  
County of Roanoke

Location (County):  
Roanoke, Virginia

**2. Regulated Small MS4 Owner**

Name:  
County of Roanoke

Address:  
County of Roanoke  
Attention: County Administrator  
P.O. Box 29800  
Roanoke, VA 24018-0798

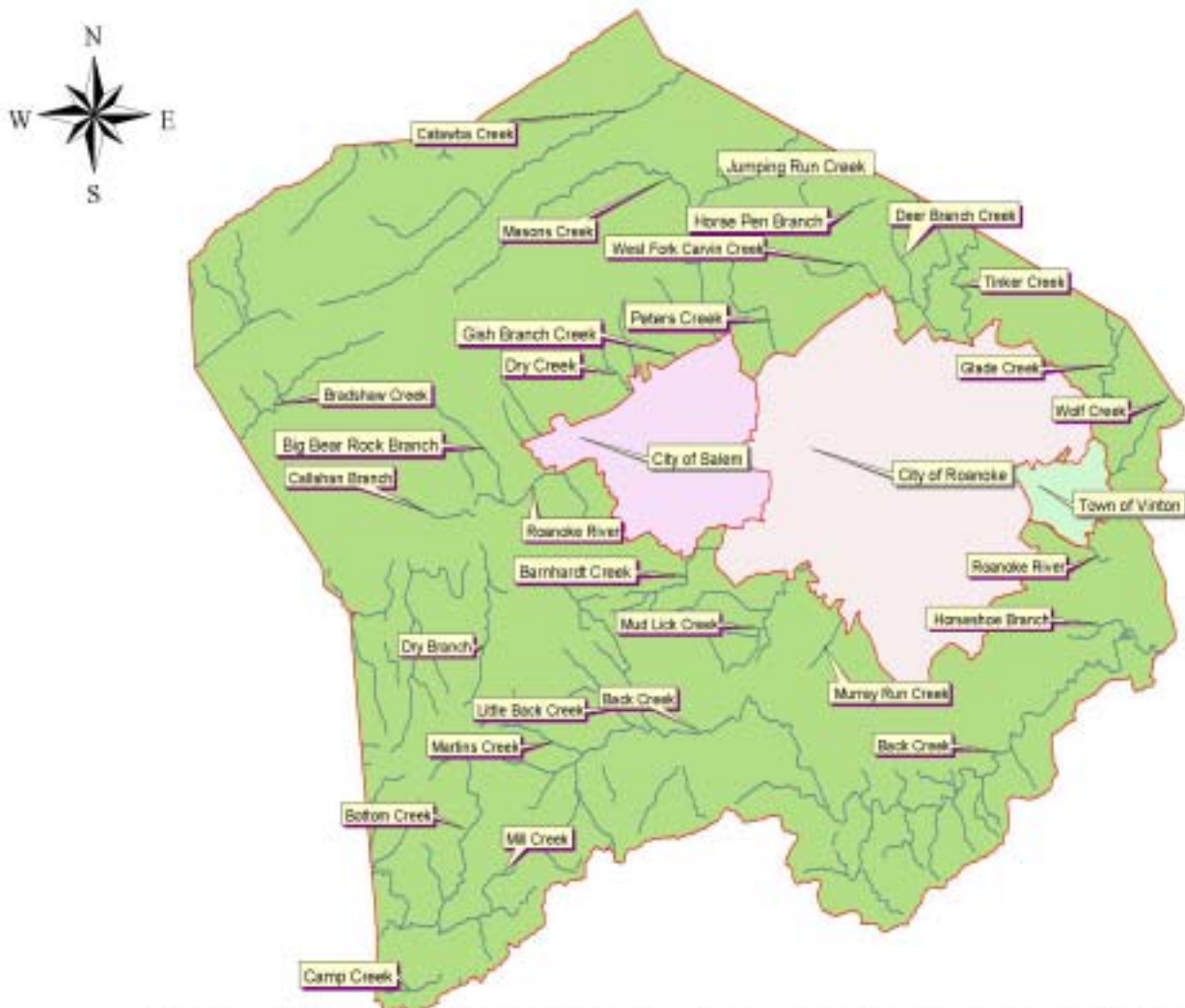
County: Roanoke      State: Virginia      Zip: 24018-0798

Phone: (540) 772-2204

**County Of Roanoke**  
**VPDES Phase II Registration Statement**

**3. Name(s) of the receiving water(s) into which the small MS4 discharges:**

|                                |                          |                             |
|--------------------------------|--------------------------|-----------------------------|
| <u>Back Creek</u>              | <u>Barnhardt Creek</u>   | <u>Big Bear Rock Branch</u> |
| <u>Bottom Creek</u>            | <u>Bradshaw Creek</u>    | <u>Callahan Branch</u>      |
| <u>Camp Creek</u>              | <u>Catawba Creek</u>     | <u>Carvins Creek</u>        |
| <u>Deer Branch</u>             | <u>Dry Creek</u>         | <u>Gish Branch</u>          |
| <u>Glade Creek</u>             | <u>Horseshoe Branch</u>  | <u>Jumping Run</u>          |
| <u>Horse Pen Branch</u>        | <u>Little Back Creek</u> | <u>Martins Creek</u>        |
| <u>Masons Creek</u>            | <u>Mill Creek</u>        | <u>Mudlick Creek</u>        |
| <u>Murdock Creek</u>           | <u>Murray Run</u>        | <u>Roanoke River</u>        |
| <u>Ore Branch</u>              | <u>Peters Creek</u>      | <u>Tinker Creek</u>         |
| <u>West Fork Carvins Creek</u> |                          | <u>Wolf Creek</u>           |



**Figure 1: Receiving Waters County of Roanoke, Virginia**

**4. Attach a description of the Best Management Practices (BMP's) that the owner or another entity proposes to implement for each of the following stormwater minimum control measures:**

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

**5. For each of the BMP's described in (4), list the measurable goals for each BMP including, as appropriate, the years in which the required actions will be undertaken, including interim milestones and the frequency of the action.**

**6. Attach a list of the person or persons responsible for implementing or coordinating the small MS4 stormwater management program.**

**Stormwater Management Program Administrator:**

**George W. Simpson, III, P. E.**  
**Assistant Director, Department of Community Development**  
**5204 Bernard Drive**  
**P.O. Box 29800**  
**Roanoke, VA 24018-0798**  
**(540)-772-2080**

**All inquiries regarding the coordination and implementation of the County of Roanoke's storm water management program shall be directed to Mr. Simpson. Mr. Simpson will then be responsible for discussing the inquiry with the appropriate County Of Roanoke department(s) and for providing a response to the requester.**

**7. 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:  
Elmer C. Hodge

Title:  
County Administrator

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
Approved as to form by County Attorney

**For Department of Environmental Quality Use Only DEQ-WATER FORM  
SWGP-MS4-001-RS (12/02)**

Accepted/Not Accepted by: \_\_\_\_\_

Date: \_\_\_\_\_

Basin \_\_\_\_\_ Stream Class \_\_\_\_\_

Section \_\_\_\_\_

Special Standards \_\_\_\_\_

**Stormwater Management Program:**

**Minimum Control Measure 1: Public Education and Outreach.**

General Summary: The County of Roanoke Virginia has developed a comprehensive plan for compliance for public education and outreach on stormwater quality. Roanoke County has the unique opportunity to utilize its relationship with Explore Park to fulfill most of the BMP's within this control measure.

The County of Roanoke will partner with Explore Park in the proposed **County of Roanoke – Virginia's Explore Park, Stormwater Education Program Partnership Project** *"a partnership for a better future"* (BMP's 1:1, 1:2, 1:3, 1:4, 1:5, 1:6, 1:9 and 1:10). The tentative work plan for this project includes:

- **Outreach programs in Roanoke County School systems.**
- **A Free-standing educational exhibit that would tour each Middle School**
- **Poster contest about stormwater, and water quality for the 3<sup>rd</sup> and 4<sup>th</sup> grades.**
- **Roanoke County Site Program working with teachers to develop a program for 8<sup>th</sup> grade children to identify outlet locations of specified storm water inlets. Then on each inlet, identify location and outlet with signage.**
- **Save Our Streams Field Days**
- **Summer Programming for Kids (Earth-WISE)**
- **Public Forums**
- **Wastewater Education**
- **Enviro- Fun**

Plans for this MCM include and take into account the potential for some BMP's to provide compliance for more than one MCM. Most of the BMP's in MCM 1 fulfill a great deal of the components of MCM 2 and MCM 6. The County of Roanoke will be completing an extensive review of existing education programs and opportunities (BMP 1:1).

To reach all levels of the public we intend to develop and distribute a stormwater (BMP 1:2) mailer which will include information on the Web Page, the stormwater hotline, the CRS program, Explore park programs and will be designed to be used as a regional document with slight modifications. We also have the cooperation of the Virginia Department of Transportation as we work to develop materials and programs. Educational efforts will include the use of Streams schools, which educate the public on water laws and regulations and general aquatic ecology (BMP 1:3).

Additionally, components of the Education project incorporate the use of PSA's, Billboard advertisements, stormwater educational merchandising and targeted education for businesses in the Roanoke Valley. The County has designed its program for public education and outreach to reach as many social, economic and business groups as possible. This control measure will target homeowners, businesses, industry and the general public. An informed and knowledgeable community is crucial to the success of the stormwater management program. As the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters, a greater compliance with the stormwater program will result.

**County Of Roanoke**  
**VPDES Phase II Registration Statement**

**Measurable Goals:**

**BMP 1-1 Complete a comprehensive review of existing stormwater educational programs available to Roanoke County and the Roanoke Valley region.**

**Responsible Party: Community Development in Cooperation with Explore Park**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                                                                                                                                                                                                                      | <b>Measurable Goals</b>                                                                                                                                                                                                                                                                                                                                                                                   | <b>Regional Cooperators</b>                                                                                                                                                                      |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On or Before March 10, 2004 | Implement a review of current publications and educational programs produced by Roanoke County and other agencies within the Roanoke Valley that directly address stormwater issues such as stormwater management, stormwater quality, flood-plain management, watershed development, pollution prevention, conservation practices and riparian habitat protection. | Creation of a stormwater programs database. The database will document educational programs, brochures, pamphlets, videos, maps, and training opportunities related to stormwater quality management. The database will be made accessible through Roanoke County's website and will include instructions on accessing these educational materials. Provide a copy of the stormwater database to the DEQ. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005 | Maintain and update stormwater programs database to included new and developing programs, publications and technologies.                                                                                                                                                                                                                                            | Continue to submit a copy of the database to the DEQ.                                                                                                                                                                                                                                                                                                                                                     | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2006 | Maintain and update stormwater programs database to included new and developing programs, publications and technologies.                                                                                                                                                                                                                                            | Continue to submit a copy of the database to the DEQ.                                                                                                                                                                                                                                                                                                                                                     | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2007 | Maintain and update stormwater programs database to included new and developing programs, publications and technologies.                                                                                                                                                                                                                                            | Continue to submit a copy of the database to the DEQ.                                                                                                                                                                                                                                                                                                                                                     | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2008 | Maintain and update stormwater programs database to included new and developing programs, publications and technologies.                                                                                                                                                                                                                                            | Continue to submit a copy of the database to the DEQ.                                                                                                                                                                                                                                                                                                                                                     | Same as Above                                                                                                                                                                                    |

**County Of Roanoke**  
**VPDES Phase II Registration Statement**

**BMP 1-2 Develop and distribute a Roanoke County Stormwater Informational Mailer to Roanoke County Residents on a Yearly Basis. The mailer will be designed as a regional document based on the unique issues and concerns for the Roanoke River Watershed.**

**Responsible Party: Community Development in Cooperation with Explore Park**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                                                                                                                                                                               | <b>Measurable Goal</b>                                                                                                                                                                                                                                      | <b>Regional Cooperators</b> |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| On or Before March 10, 2004 | Create a stormwater informational mailer, which will educate residents of the County of Roanoke on VPDES Phase II requirements. The mailer will include a description of the stormwater program, tips on pollution prevention and a description of the CRS/NFIP program. The mailer will be designed as a regional document. | To distribute informational mailers to 8,500 County Residents (approximately 10% of the County population). Provide the DEQ with a copy of the yearly storm water informational mailer and documentation of the number of citizens reached.                 | Community Development       |
| On or Before March 10, 2005 | Continue to distribute the stormwater informational mailer to all residents in the County of Roanoke and update the mailer to reflect current information and program changes.                                                                                                                                               | Continue to distribute informational mailers to 8,500 County Residents (approximately 10% of the County population). Provide the DEQ with a copy of the updated yearly stormwater informational mailer and documentation of the number of citizens reached. | Community Development       |
| On or Before March 10, 2006 | Continue to distribute the stormwater informational mailer to all residents in the County of Roanoke and update the mailer to reflect current information and program changes.                                                                                                                                               | Continue to distribute informational mailers to 8,500 County Residents (approximately 10% of the County population). Provide the DEQ with a copy of the updated yearly stormwater informational mailer and documentation of the number of citizens reached. | Community Development       |
| On or Before March 10, 2007 | Continue to distribute the stormwater informational mailer to all residents in the County of Roanoke and update the mailer to reflect current information and program changes.                                                                                                                                               | Continue to distribute informational mailers to 8,500 County Residents (approximately 10% of the County population). Provide the DEQ with a copy of the updated yearly stormwater informational mailer and documentation of the number of citizens reached. | Community Development       |
| On or Before March 10, 2008 | Continue to distribute the stormwater informational mailer to all residents in the County of Roanoke and update the mailer to reflect current information and program changes.                                                                                                                                               | Continue to distribute informational mailers to 8,500 County Residents (approximately 10% of the County population). Provide the DEQ with a copy of the updated yearly stormwater informational mailer and documentation of the number of citizens reached. | Community Development       |

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| <b>BMP 1-3 In cooperation with Virginia Save Our Streams, Roanoke County will provide Stream School Seminars for adults and high school students on a yearly basis.</b> |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                              |                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Responsible Party: Community Development in Cooperation with Explore Park</b>                                                                                        |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                              |                                                                                                                                                                                                  |
| <b>Commitment Date</b>                                                                                                                                                  | <b>Mission</b>                                                                                                                                                                                                                                                                                                                  | <b>Measurable Goal</b>                                                                                                                                                       | <b>Regional Cooperators</b>                                                                                                                                                                      |
| On or Before March 10, 2004                                                                                                                                             | With the cooperation of the Virginia Save Our Streams organization, Roanoke County will provide Stream School Seminars on a yearly basis. Stream school seminars provide a summary of state and federal water quality regulations, information on water quality monitoring and provide some field exposure to aquatic habitats. | Hold a minimum of two stream school seminars during each year of the permit. Attendance lists for each seminar and the number of seminars held will be submitted to the DEQ. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005                                                                                                                                             | Continue to provide stream school seminars to educate the attendees on Virginia water quality regulations, aquatic ecosystems and pollution prevention strategies.                                                                                                                                                              | Hold a minimum of two stream school seminars during each year of the permit. Attendance lists for each seminar and the number of seminars held will be submitted to the DEQ. | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2006                                                                                                                                             | Continue to provide stream school seminars to educate the attendees on Virginia water quality regulations, aquatic ecosystems and pollution prevention strategies.                                                                                                                                                              | Hold a minimum of two stream school seminars during each year of the permit. Attendance lists for each seminar and the number of seminars held will be submitted to the DEQ. | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2007                                                                                                                                             | Continue to provide stream school seminars to educate the attendees on Virginia water quality regulations, aquatic ecosystems and pollution prevention strategies.                                                                                                                                                              | Hold a minimum of two stream school seminars during each year of the permit. Attendance lists for each seminar and the number of seminars held will be submitted to the DEQ. | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2008                                                                                                                                             | Continue to provide stream school seminars to educate the attendees on Virginia water quality regulations, aquatic ecosystems and pollution prevention strategies.                                                                                                                                                              | Hold a minimum of two stream school seminars during each year of the permit. Attendance lists for each seminar and the number of seminars held will be submitted to the DEQ. | Same as Above                                                                                                                                                                                    |

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**BMP 1-4 Develop a stormwater education program for Roanoke County school age children. Different programs will target appropriate grade levels.**

**Responsible Party: Community Development in Cooperation with Explore Park**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                                                    | <b>Measurable Goal</b>                                                                                                                                                                                                                  | <b>Regional Cooperators</b>                                                                                                                                                                      |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On or Before March 10, 2004 | Roanoke County in cooperation with Explore Park will develop and provide programs addressing storm water and related water quality issues. Programs will be grade appropriate and SOL correlated. | Document that 10 percent of school age children in all magisterial districts within Roanoke County have been educated on stormwater quality by tracking the number of programs provided and the number of children reached.             | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005 | Continue to provide and update storm water education programs.                                                                                                                                    | Continue to document that 10 percent of school age children in all magisterial districts within Roanoke County have been educated on stormwater quality by tracking the number of programs provided and the number of children reached. | Same as above                                                                                                                                                                                    |
| On or Before March 10, 2006 | Continue to provide and update storm water education programs.                                                                                                                                    | Continue to document that 10 percent of school age children in all magisterial districts within Roanoke County have been educated on stormwater quality by tracking the number of programs provided and the number of children reached. | Same as above                                                                                                                                                                                    |
| On or Before March 10, 2007 | Continue to provide and update storm water education programs.                                                                                                                                    | Continue to document that 10 percent of school age children in all magisterial districts within Roanoke County have been educated on stormwater quality by tracking the number of programs provided and the number of children reached. | Same as above                                                                                                                                                                                    |
| On or Before March 10, 2008 | Continue to provide and update storm water education programs.                                                                                                                                    | Continue to document that 10 percent of school age children in all magisterial districts within Roanoke County have been educated on stormwater quality by tracking the number of programs provided and the number of children reached. | Same as above                                                                                                                                                                                    |

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| <b>BMP 1-5 Distribute posters, bumper stickers, flyers, fact sheets, and other items promoting the importance of Stormwater Quality to the citizens of Roanoke County.</b> |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                 |                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Responsible Party: Community Development in Cooperation with Explore Park</b>                                                                                           |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                 |                                                                                                                                                                                                  |
| <b>Commitment Date</b>                                                                                                                                                     | <b>Mission</b>                                                                                                                                                                                                                    | <b>Measurable Goal</b>                                                                                                                                                                                          | <b>Regional Cooperators</b>                                                                                                                                                                      |
| On or Before March 10, 2004                                                                                                                                                | To bring Stormwater Quality issues to the publics attention with promotional and marketing merchandise. Merchandise will be made available at public events, fairs, festivals, kiosks, booths, and water related events.          | To distribute 8,500 (10% of the County population) informational BMP's each year of the permit. The number of items, type of merchandise and a description of the events will be reported to the DEQ.           | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005                                                                                                                                                | Continue to bring Stormwater Quality issues to the publics attention with promotional and marketing merchandise. Merchandise will be made available at public events, fairs, festivals, kiosks, booths, and water related events. | Continue to distribute 8,500 (10% of the County population) informational BMP' s each year of the permit. The number of items, type of merchandise and a description of the events will be reported to the DEQ. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2006                                                                                                                                                | Continue to bring Stormwater Quality issues to the publics attention with promotional and marketing merchandise. Merchandise will be made available at public events, fairs, festivals, kiosks, booths, and water related events. | Continue to distribute 8,500 (10% of the County population) informational BMP' s each year of the permit. The number of items, type of merchandise and a description of the events will be reported to the DEQ. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2007                                                                                                                                                | Continue to bring Stormwater Quality issues to the publics attention with promotional and marketing merchandise. Merchandise will be made available at public events, fairs, festivals, kiosks, booths, and water related events. | Continue to distribute 8,500 (10% of the County population) informational BMP' s each year of the permit. The number of items, type of merchandise and a description of the events will be reported to the DEQ. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2008                                                                                                                                                | Continue to bring Stormwater Quality issues to the publics attention with promotional and marketing merchandise. Merchandise will be made available at public events, fairs, festivals, kiosks, booths, and water related events. | Continue to distribute 8,500 (10% of the County population) informational BMP' s each year of the permit. The number of items, type of merchandise and a description of the events will be reported to the DEQ. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |

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| <b>BMP 1-6 Utilization of billboards in high traffic corridors to advertise the importance of stormwater quality, conservation, and other stormwater issues.</b> |                                                                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Responsible Party: Community Development in Cooperation with Explore Park</b>                                                                                 |                                                                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                  |
| <b>Commitment Date</b>                                                                                                                                           | <b>Mission</b>                                                                                                                              | <b>Measurable Goal</b>                                                                                                                                                                          | <b>Regional Cooperators</b>                                                                                                                                                                      |
| On or Before March 10, 2004                                                                                                                                      | Develop campaign to utilize billboards in high traffic commercial corridors as a tool to educate the public on important stormwater issues. | Develop targeted billboard campaign to maximize billboard locations and exposure efficiency.                                                                                                    | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005                                                                                                                                      | Utilize billboards in high traffic commercial corridors as a tool to educate the public on important stormwater issues.                     | Provide one storm water quality billboard display in the second year of the permit. The description and location of the advertisement and transportation corridor will be submitted to the DEQ. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2006                                                                                                                                      | Continue to utilize billboards in high traffic commercial corridors as a tool to educate the public on important stormwater issues.         | Provide two storm water quality billboard displays per calendar year. The description and location of the advertisement and transportation corridor will be submitted to the DEQ.               | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2007                                                                                                                                      | Continue to utilize billboards in high traffic commercial corridors as a tool to educate the public on important stormwater issues.         | Continue to provide two storm water quality billboard displays per calendar year. The description and location of the advertisement and transportation corridor will be submitted to the DEQ.   | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2008                                                                                                                                      | Continue to utilize billboards in high traffic commercial corridors as a tool to educate the public on important stormwater issues.         | Continue to provide two storm water quality billboard displays per calendar year. The description and location of the advertisement and transportation corridor will be submitted to the DEQ.   | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |

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**BMP 1-7 Establish a stormwater hotline for Roanoke County Citizens that allows citizens to report storm drain violations (illegal dumping), make general comments about stormwater/storm drains and stormwater maintenance concerns. The hotline will be designed to include comment tracking and follow up protocols, provide general information on the stormwater management program and provide storm water management program contact information.**

**Responsible Party: Community Development**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                            | <b>Measurable Goal</b>                                              | <b>Regional Cooperators</b> |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------|
| On or Before March 10, 2004 | Create a hotline where citizens can specifically receive and relay information concerning Roanoke County's Stormwater Management Program. | Hotline established and ready for citizen use.                      | Community Development       |
| On or Before March 10, 2005 | Publicize the hotline via BMP's 1.2, 1.5, and 1.6 and encourage citizens to utilize it for information.                                   | Document the number of calls and call responses on an annual basis. | Community Development       |
| On or Before March 10, 2006 | Publicize the hotline via BMP's 1.2, 1.5, and 1.6 and encourage citizens to utilize it for information.                                   | Document the number of calls and call responses on an annual basis. | Community Development       |
| On or Before March 10, 2007 | Publicize the hotline via BMP's 1.2, 1.5, and 1.6 and encourage citizens to utilize it for information.                                   | Document the number of calls and call responses on an annual basis. | Community Development       |
| On or Before March 10, 2008 | Publicize the hotline via BMP's 1.2, 1.5, and 1.6 and encourage citizens to utilize it for information.                                   | Document the number of calls and call responses on an annual basis. | Community Development       |

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**BMP 1-8 Develop and maintain a Roanoke County Stormwater web page, where citizens can get information concerning the County's Stormwater Management Program, ordinances, design guidelines, general information, contact information, pollution prevention information, educational programs and links to other organizations and sites.**

**Responsible Party: Community Development**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                               | <b>Measurable Goal</b>                                                                                                               | <b>Regional Cooperators</b>            |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| On or Before March 10, 2004 | Create a web page where citizens can specifically get information concerning Roanoke County's Stormwater Management Program.                 | Web page up and running and available for public use. Copy of the web page and web page utilization statistics submitted to the DEQ. | Community Development – GIS Department |
| On or Before March 10, 2005 | Maintain and update the web page to inform Roanoke County citizens of progress and changes to the Stormwater Management program.             | Provide the DEQ with a copy of the current web page and web page utilization statistics.                                             | Community Development – GIS Department |
| On or Before March 10, 2006 | Continue to maintain and update the web page to inform Roanoke County citizens of progress and changes to the Stormwater Management program. | Continue to provide the DEQ with a copy of the current web page and web page utilization statistics.                                 | Community Development – GIS Department |
| On or Before March 10, 2007 | Continue to maintain and update the web page to inform Roanoke County citizens of progress and changes to the Stormwater Management program. | Continue to provide the DEQ with a copy of the current web page and web page utilization statistics.                                 | Community Development – GIS Department |
| On or Before March 10, 2008 | Continue to maintain and update the web page to inform Roanoke County citizens of progress and changes to the Stormwater Management program. | Continue to provide the DEQ with a copy of the current web page and web page utilization statistics.                                 | Community Development – GIS Department |

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**BMP 1-9 Produce Stormwater Program Public Service Announcements on a yearly basis that utilize radio and television media to educate the public on stormwater issues.**

**Responsible Party: Community Development in Cooperation with Explore Park**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                                                                                                                                               | <b>Measurable Goal</b>                                                                                                                                                                                                     | <b>Regional Cooperators</b> |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| On or Before March 10, 2004 | Develop and produce stormwater program public service announcements, which encourage citizens to utilize the storm water hotlines and web pages. PSA's will inform citizens about storm water related topics, conservation, landscaping tips, pollution prevention and watershed protection. | Produce Four Stormwater Program Public Service Announcements. Each PSA shall run for a minimum of four weeks. The PSA can be done by either television or radio. PSA information will be submitted to the DEQ.             | Community Development       |
| On or Before March 10, 2005 | Continue to produce stormwater Program public service announcements.                                                                                                                                                                                                                         | Continue to produce Four Stormwater Program Public Service Announcements. Each PSA shall run for a minimum of four weeks. The PSA can be done by either television or radio. PSA information will be submitted to the DEQ. | Community Development       |
| On or Before March 10, 2006 | Continue to produce stormwater Program public service announcements.                                                                                                                                                                                                                         | Continue to produce Four Stormwater Program P.S.A's. Each PSA shall run for a minimum of four weeks. The PSA can be done by either television or radio. PSA information will be submitted to the DEQ.                      | Community Development       |
| On or Before March 10, 2007 | Continue to produce stormwater Program public service announcements.                                                                                                                                                                                                                         | Continue to produce Four Stormwater Program P.S.A's. Each PSA shall run for a minimum of four weeks. The PSA can be done by either television or radio. PSA information will be submitted to the DEQ.                      | Community Development       |
| On or Before March 10, 2008 | Continue to produce stormwater Program public service announcements.                                                                                                                                                                                                                         | Continue to produce Four Stormwater Program P.S.A's. Each PSA shall run for a minimum of four weeks. The PSA can be done by either television or radio. PSA information will be submitted to the DEQ.                      | Community Development       |

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**BMP 1-10 Develop a stormwater quality education program for specific commercial businesses within the County of Roanoke and provide information to these businesses in an effort to increase business owner awareness of the impacts of illicit discharges into the County's storm sewer system.**

**Responsible Party: Community Development in Cooperation with Explore Park**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                           | <b>Measurable Goal</b>                                                                                                                                                                                   | <b>Regional Cooperators</b>                                                                                                                                                                |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On or Before March 10, 2004 | Create an inventory and database of existing business related storm water educational materials. Develop a list of County businesses and target businesses for outreach. | Database will be submitted to the DEQ. Businesses will prioritized with relation to their potential impact on storm water, a list of the types of businesses targeted will be submitted to the DEQ.      | Community Development in cooperation with Explore Park, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005 | Distribute information to targeted business owners.                                                                                                                      | Distribute information to 25% of targeted Roanoke County businesses. The number and type of businesses reached will be recorded in a database for future reference and submitted to the DEQ.             | Community Development in cooperation with Explore Park, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2006 | Distribute information to targeted business owners.                                                                                                                      | Continue to distribute information to 25% of targeted Roanoke County businesses. The number and type of businesses reached will be recorded in a database for future reference and submitted to the DEQ. | Community Development in cooperation with Explore Park, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2007 | Distribute information to targeted business owners.                                                                                                                      | Continue to distribute information to 25% of targeted Roanoke County businesses. The number and type of businesses reached will be recorded in a database for future reference and submitted to the DEQ. | Community Development in cooperation with Explore Park, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2008 | Distribute information to targeted business owners.                                                                                                                      | Continue to distribute information to 25% of targeted Roanoke County businesses. The number and type of businesses reached will be recorded in a database for future reference and submitted to the DEQ. | Community Development in cooperation with Explore Park, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |

**Minimum Control Measure 2: Public Participation and Involvement.**

General Summary: The County of Roanoke will also be utilizing Explore Park to fulfill much of the commitment for public participation and involvement. Support by the citizenry is crucial to the success of the storm water management plan. To garner this support the County will be coordinating several programs to engage citizen's interest in storm water quality.

The county will be supporting a storm drain-stenciling program (BMP: 2:1) designed to engage group involvement and educate people about the consequences of dumping into the storm drain system. We will also be sponsoring a coordinated Save Our Streams macroinvertebrate monitoring and stream habitat inventory program (BMP 2:2).

Public Forums (BMP 2:3) and a county sponsored citizen advisory committee (BMP 2:4) are the core of the citizen participation component. The measure will involve all socio-economic groups. The public participation program is a key component of the public education measure. Broader public support in the development and decision making process will minimize potential legal challenges.

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**Measurable Goals:**

**BMP 2-1 Coordinate a Storm Drain Stenciling Program with local schools, organizations, neighborhoods, businesses, etc., with the goal of stenciling storm drains throughout the County.**

**Responsible Party: Community Development in Cooperation with Explore Park**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                     | <b>Measurable Goal</b>                                                                                                                                                                         | <b>Regional Cooperators</b>                                                     |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| On or Before March 10, 2004 | The County will coordinate a Storm Drain Stenciling Program with local organizations including schools and businesses.             | Document the stenciling of 50 storm drains within the County of Roanoke. The number of storm drains stenciled and the number of groups participating will be submitted to the DEQ.             | Community Development in conjunction with Explore Park and Clean Valley Council |
| On or Before March 10, 2005 | The County will continue to coordinate a Storm Drain Stenciling Program with local organizations including schools and businesses. | Continue to document the stenciling of 50 storm drains within the County of Roanoke. The number of storm drains stenciled and the number of groups participating will be submitted to the DEQ. | Community Development in conjunction with Explore Park and Clean Valley Council |
| On or Before March 10, 2006 | The County will continue to coordinate a Storm Drain Stenciling Program with local organizations including schools and businesses. | Continue to document the stenciling of 50 storm drains within the County of Roanoke. The number of storm drains stenciled and the number of groups participating will be submitted to the DEQ. | Community Development in conjunction with Explore Park and Clean Valley Council |
| On or Before March 10, 2007 | The County will continue to coordinate a Storm Drain Stenciling Program with local organizations including schools and businesses. | Continue to document the stenciling of 50 storm drains within the County of Roanoke. The number of storm drains stenciled and the number of groups participating will be submitted to the DEQ. | Community Development in conjunction with Explore Park and Clean Valley Council |
| On or Before March 10, 2008 | The County will continue to coordinate a Storm Drain Stenciling Program with local organizations including schools and businesses. | Continue to document the stenciling of 50 storm drains within the County of Roanoke. The number of storm drains stenciled and the number of groups participating will be submitted to the DEQ. | Community Development in conjunction with Explore Park and Clean Valley Council |

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**BMP 2-2 Coordinate a Save our Streams Program to educate local schools, organizations, neighborhoods, and businesses on water quality regulations, water pollution and the importance of stream monitoring within the County.**

**Responsible Party: Community Development in Cooperation with Explore Park**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                               | <b>Measurable Goal</b>                                                                                                                                                                                                                                                                                                                   | <b>Regional Cooperators</b>                                                                                                                                                                      |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On or Before March 10, 2004 | The County will coordinate a Save Our Streams Program with local organizations including schools and businesses.             | The County Save Our Streams Program will create a database that will track the number of streams monitored, monitoring locations, the number and type of groups participating, and monitoring results. The database will be submitted to the DEQ. Special emphasis will be placed on monitoring stream segments with a TMDL designation. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005 | The County will continue to coordinate a Save Our Streams Program with local organizations including schools and businesses. | Continue to submit SOS database to the DEQ and expand the program to include stream habitat assessment and inventory to achieve a 4% increase in acceptable site scores.                                                                                                                                                                 | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2006 | The County will continue to coordinate a Save Our Streams Program with local organizations including schools and businesses. | Continue to submit SOS database to the DEQ and to achieve a 4% increase in acceptable site scores.                                                                                                                                                                                                                                       | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2007 | The County will continue to coordinate a Save Our Streams Program with local organizations including schools and businesses. | Continue to submit SOS database to the DEQ and to achieve a 4% increase in acceptable site scores.                                                                                                                                                                                                                                       | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2008 | The County will continue to coordinate a Save Our Streams Program with local organizations including schools and businesses. | Continue to submit SOS database to the DEQ and to achieve a 4% increase in acceptable site scores.                                                                                                                                                                                                                                       | Same as Above                                                                                                                                                                                    |

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**BMP 2-3 Once a year, at Virginia's Explore Park Hold a Public Forum to address different storm water issues, the County's progress towards storm water quality improvements, and to receive input from the public on the County's Stormwater Management Program.**

**Responsible Party: Community Development in Cooperation with Explore Park**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                                                                       | <b>Measurable Goal</b>                                                      | <b>Regional Cooperators</b>                                                                                                                                                                      |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On or Before March 10, 2004 | Conduct a public forum meeting describing what the County is doing concerning stormwater management issues. The meeting will allow time to receive input from the public on their concerns about storm water issues. | Minutes of the meeting and the attendant list will be submitted to the DEQ. | Community Development in cooperation with Explore Park, VDOT, the municipalities of the Roanoke River watershed, the Clean Valley Council, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005 | Continue to hold a public forum/informational meeting.                                                                                                                                                               | Continue to submit the meeting minutes and the attendant list to the DEQ.   | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2006 | Continue to hold a public forum/informational meeting.                                                                                                                                                               | Continue to submit the meeting minutes and the attendant list to the DEQ.   | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2007 | Continue to hold a public forum/informational meeting.                                                                                                                                                               | Continue to submit the meeting minutes and the attendant list to the DEQ.   | Same as Above                                                                                                                                                                                    |
| On or Before March 10, 2008 | Continue to hold a public forum/informational meeting.                                                                                                                                                               | Continue to submit the meeting minutes and the attendant list to the DEQ.   | Same as Above                                                                                                                                                                                    |

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| <b>BMP: 2-4. Establish a Stormwater Management Program Citizens Advisory Committee</b> |                                                                                                                                                                                                                           |                                                                                                                                                       |                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Responsible Party: Community Development in Cooperation with Explore Park</b>       |                                                                                                                                                                                                                           |                                                                                                                                                       |                                                                                                                                                                                                         |
| <b>Commitment Date</b>                                                                 | <b>Task</b>                                                                                                                                                                                                               | <b>Measurable Goal</b>                                                                                                                                | <b>Regional Cooperators</b>                                                                                                                                                                             |
| On or Before March 10, 2004                                                            | A citizen advisory committee will be established. The group will meet four times a year to be updated on the Stormwater Management Program and to review informational materials and education components of the program. | The Stormwater Management Program Citizens Advisory Committee will meet four times. Group activities and meeting minutes will be reported to the DEQ. | The Roanoke Regional Homebuilders Association, The Upper Roanoke River Roundtable, the Greenway commission, the Roanoke Urban Forestry committee, and the Roanoke Valley Allegheny Regional Commission. |
| On or Before March 10, 2005                                                            | Document and continue to have an active advisory committee which meets four times per year.                                                                                                                               | Continue to document group activities and meeting minutes.                                                                                            | Same as Above                                                                                                                                                                                           |
| On or Before March 10, 2006                                                            | Document and continue to have an active advisory committee which meets four times per year.                                                                                                                               | Continue to document group activities and meeting minutes.                                                                                            | Same as Above                                                                                                                                                                                           |
| On or Before March 10, 2007                                                            | Document and continue to have an active advisory committee which meets four times per year.                                                                                                                               | Continue to document group activities and meeting minutes.                                                                                            | Same as Above                                                                                                                                                                                           |
| On or Before March 10, 2008                                                            | Document and continue to have an active advisory committee which meets four times per year.                                                                                                                               | Continue to document group activities and meeting minutes.                                                                                            | Same as Above                                                                                                                                                                                           |

**Minimum Control Measure 3: Illicit Discharge Detection and Elimination.**

General Summary: The County of Roanoke will be developing A storm sewer system map in a Geographic Information System (GIS) environment to map the location of all storm sewer outfalls and all the waters that receive storm water discharges (BMP 3:1). A Global Positioning System (GPS) will be used to capture outfall locations to sub meter accuracy. Thus, additional information (catch basins, pipes, culverts and other storm water structures) can also be collected.

Other County of Roanoke service departments, Bldg Code Enforcement, Sewer Maintenance and Fire data may also be incorporated. The GIS will also allow the input of citizen complaints, dry weather screening and monitoring data. The County will be developing a comprehensive program and ordinance for illicit discharges into the storm sewer system (BMP 3:2, 3:3, 3:4). This program will be developed with a pilot project (BMP 3:3) implemented on or before March 10, 2005, to assess the scope of the program. These programs will be time coordinated so that the enforcement and corrections program is in effect on or before March 10, 2006.

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**Measurable Goals:**

| <b>BMP: 3-1. Develop A Storm Drain System Map which identifies all outfalls 15 inch and larger and all 12 inch outfalls from zoned industrial properties within the County of Roanoke, which discharge to natural waterways.</b> |                                      |                                                                                                                                                                                     |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development</b>                                                                                                                                                                                  |                                      |                                                                                                                                                                                     |                             |
| <b>Commitment Date</b>                                                                                                                                                                                                           | <b>Mission</b>                       | <b>Measurable Goal</b>                                                                                                                                                              | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                                                                                                                                                                                      | Develop storm sewer outfall map.     | Complete map of 10% of all storm drain outfalls 15-inch and larger and all outfalls 12 inch and larger from zoned industrial properties within County limits.                       |                             |
| On or Before March 10, 2005                                                                                                                                                                                                      | Develop storm sewer system map.      | Complete map of 25% of all storm drain outfalls 15-inch and larger and all outfalls 12 inch and larger from zoned industrial properties within County limits.                       |                             |
| On or Before March 10, 2006                                                                                                                                                                                                      | Develop a storm sewer system map.    | Complete map of 50% of all storm drain outfalls 15-inch and larger and all outfalls 12 inch and larger from zoned industrial properties within County limits.                       |                             |
| On or Before March 10, 2007                                                                                                                                                                                                      | Develop storm sewer system database  | Complete map of 100% of all storm drain outfalls 15-inch and larger and all outfalls 12 inch and larger from zoned industrial properties within County limits.                      |                             |
| On or Before March 10, 2008                                                                                                                                                                                                      | Maintain storm sewer system database | Continue to maintain and update database for all storm drain outfalls 15-inch and larger and all outfalls 12 inch and larger from zoned industrial properties within County limits. |                             |

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| <b>BMP: 3-2. Develop regulations and an enforcement program for a Stormwater Ordinance preventing illegal discharges into the storm drain system.</b> |                                                                                              |                                                                                                |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development/County Attorney</b>                                                                                       |                                                                                              |                                                                                                |                             |
| <b>Commitment Date</b>                                                                                                                                | <b>Mission</b>                                                                               | <b>Measurable Goal</b>                                                                         | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                                                                                                           |                                                                                              |                                                                                                |                             |
| On or Before March 10, 2005                                                                                                                           | Develop an ordinance prohibiting illegal discharges into the storm drain system.             | Draft ordinance ready for County Board of Supervisors approval.                                |                             |
| On or Before March 10, 2006                                                                                                                           | Adopt and enforce an ordinance prohibiting illegal discharges into the storm drain system.   | Board of Supervisors adoption of illegal discharge ordinance and documentation of enforcement. |                             |
| On or Before March 10, 2007                                                                                                                           | Continue to enforce an ordinance prohibiting illegal discharges into the storm drain system. | Continue documentation of enforcement.                                                         |                             |
| On or Before March 10, 2008                                                                                                                           | Continue to enforce an ordinance prohibiting illegal discharges into the storm drain system. | Continue documentation of enforcement.                                                         |                             |

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| <b>BMP: 3-3. Pilot project for Illicit Discharge Detection and Elimination.</b> |                                                                                                                                |                                                                                                                                                     |                             |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development</b>                                 |                                                                                                                                |                                                                                                                                                     |                             |
| <b>Commitment Date</b>                                                          | <b>Mission</b>                                                                                                                 | <b>Measurable Goal</b>                                                                                                                              | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                                     | N/A                                                                                                                            | N/A                                                                                                                                                 |                             |
| On or Before March 10, 2005                                                     | Implement a pilot project for Illicit Discharge Detection in the Lower Brambleton Road/419 Corridor (Mudlick Creek Watershed). | Complete dry weather visual inspections of all storm drains 12-inch and larger. TV inspection of any storm drain with suspicious dry-weather flows. |                             |
| On or Before March 10, 2006                                                     | N/A                                                                                                                            | N/A                                                                                                                                                 |                             |
| On or Before March 10, 2007                                                     | N/A                                                                                                                            | N/A                                                                                                                                                 |                             |
| On or Before March 10, 2008                                                     | N/A                                                                                                                            | N/A                                                                                                                                                 |                             |

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| <b>BMP: 3-4. Identify and enforce correction of illicit connections.</b> |                                                                                                                                                                                          |                                                                                                                                                                                                      |                             |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development</b>                          |                                                                                                                                                                                          |                                                                                                                                                                                                      |                             |
| <b>Commitment Date</b>                                                   | <b>Mission</b>                                                                                                                                                                           | <b>Measurable Goal</b>                                                                                                                                                                               | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                              | N/A                                                                                                                                                                                      | N/A                                                                                                                                                                                                  |                             |
| On or Before March 10, 2005                                              | N/A                                                                                                                                                                                      | N/A                                                                                                                                                                                                  |                             |
| On or Before March 10, 2006                                              | Conduct dry weather survey of storm sewer system outfalls 15 inch diameter or greater and outfalls 12 inch or greater from zoned industrial properties to identify non-stormwater flows. | Document the inspection of 10% of County storm drain outfalls surveyed, Report the number of illicit connections identified, and the number of illicit connections corrected to the DEQ.             |                             |
| On or Before March 10, 2007                                              | Continue dry weather survey of storm sewer system outfalls 15 inch diameter or greater and outfalls 12 inch or greater from zoned industrial properties.                                 | Continue to document the inspection of 10% of County storm drain outfalls surveyed, Report the number of illicit connections identified, and the number of illicit connections corrected to the DEQ. |                             |
| On or Before March 10, 2008                                              | Continue dry weather survey of storm sewer system outfalls 15 inch diameter or greater and outfalls 12 inch or greater from zoned industrial properties.                                 | Continue to document the inspection of 10% of County storm drain outfalls surveyed, Report the number of illicit connections identified, and the number of illicit connections corrected to the DEQ. |                             |

**Minimum Control Measure 4: Construction Site Runoff Control.**

General Summary: The County of Roanoke recognizes that construction sites can deposit significant amounts of silt and sediment in a short period of time. The Phase II rules require the County of Roanoke to develop and enforce a storm water management program.

The County of Roanoke has adopted an Erosion and Sediment Control (ESC) Plan to reduce construction pollutants in its storm water runoff (BMP 4:1). The ordinance requires that land disturbance of 10,000 square feet or more is regulated. It requires developers to submit a plan that contains measures to reduce soil erosion and practices to control sediments that have already eroded. Additionally, ESC requires the submittal of construction plans prior to ground being broken.

The County of Roanoke has also allocated staff for plan review and inspection. Once a plan is reviewed and approved by the County Board, the staff's job would be to ensure that the ESC plan is followed. The ordinance then requires the developer to install and maintain those specified measures and practices agreed to in the plan. Sites may be inspected for compliance and if found lacking, an inspector may issue a permit violation, stop work order, fine or other measure to ensure compliance.

Additionally, the County of Roanoke plans to assess potential for an increase in the number of ESC certified staff (BMP 4:2) and to develop an awards program (BMP 4:3) to recognize developers/contractors who incorporate water quality best management practices and innovative technologies in site design and development projects. Information about the awards program will be included in the County's stormwater web page (BMP 1:8) and in the Stormwater Informational Mailer (BMP 1:2) and the awards will be presented at the Public Forum meeting at Explore Park (BMP 2:3).

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**Measurable Goals:**

| <b>BMP: 4-1. Require Erosion and Sediment Control plans for any land disturbance greater than 10,000 square feet.</b> |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                  |                             |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development</b>                                                                       |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                  |                             |
| <b>Commitment Date</b>                                                                                                | <b>Mission</b>                                                                                                                                                                                                      | <b>Measurable Goal</b>                                                                                                                                                                                                                                                                                                                           | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                                                                           | Require Erosion and Sediment Control plans for any land disturbance greater than 10,000 square feet and continue to be compliant with all state and federal guidelines regarding construction site runoff controls. | Make sure that current County regulations and Erosion and Sediment control programs are fully compliant with the VPDES Phase II regulations and track regulated land-disturbing activities. A report of the total number of regulated land-disturbing activities and the total acreage disturbed will be included in the DEQ required reporting. |                             |
| On or Before March 10, 2005                                                                                           | Require Erosion and Sediment Control plans for any land disturbance greater than 10,000 square feet and continue to be compliant with all state and federal guidelines regarding construction site runoff controls. | Make sure that current County regulations and Erosion and Sediment control programs are fully compliant with the VPDES Phase II regulations and track regulated land-disturbing activities. A report of the total number of regulated land-disturbing activities and the total acreage disturbed will be included in the DEQ required reporting. |                             |
| On or Before March 10, 2006                                                                                           | Require Erosion and Sediment Control plans for any land disturbance greater than 10,000 square feet and continue to be compliant with all state and federal guidelines regarding construction site runoff controls. | Make sure that current County regulations and Erosion and Sediment control programs are fully compliant with the VPDES Phase II regulations and track regulated land-disturbing activities. A report of the total number of regulated land-disturbing activities and the total acreage disturbed will be included in the DEQ required reporting. |                             |
| On or Before March 10, 2007                                                                                           | Require Erosion and Sediment Control plans for any land disturbance greater than 10,000 square feet and continue to be compliant with all state and federal guidelines regarding construction site runoff controls. | Make sure that current County regulations and Erosion and Sediment control programs are fully compliant with the VPDES Phase II regulations and track regulated land-disturbing activities. A report of the total number of regulated land-disturbing activities and the total acreage disturbed will be included in the DEQ required reporting. |                             |
| On or Before March 10, 2008                                                                                           | Require Erosion and Sediment Control plans for any land disturbance greater than 10,000 square feet and continue to be compliant with all state and federal guidelines regarding construction site runoff controls. | Make sure that current County regulations and Erosion and Sediment control programs are fully compliant with the VPDES Phase II regulations and track regulated land-disturbing activities. A report of the total number of regulated land-disturbing activities and the total acreage disturbed will be included in the DEQ required reporting. |                             |

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**BMP: 4-2. Identify current Erosion and Sediment Control certified employees and develop a program for additional certifications and cross training.**

**Responsible Party: Community Development**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                                                                                                                                                                | <b>Measurable Goal</b>                                                                                                                                                          | <b>Regional Cooperators</b> |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| On or Before March 10, 2004 | Identify the number of currently certified Erosion and Sediment Control employees and develop a program for additional certifications and employee training. Additionally, develop a list of County positions whose job responsibilities necessitate Erosion and Sediment control certification and training. | Document the number of employees trained and certified in Erosion and Sediment Control procedures. Additional training will not be pursued until the second year of the permit. |                             |
| On or Before March 10, 2005 | Maintain Erosion and Sediment Control training and/or certifications for County of Roanoke employees.                                                                                                                                                                                                         | Document the number of employees trained and certified in Erosion and Sediment Control procedures.                                                                              |                             |
| On or Before March 10, 2006 | Maintain Erosion and Sediment Control training and/or certifications for County of Roanoke employees.                                                                                                                                                                                                         | Continue to document the number of employees trained and certified in Erosion and Sediment Control procedures.                                                                  |                             |
| On or Before March 10, 2007 | Maintain Erosion and Sediment Control training and/or certifications for County of Roanoke employees.                                                                                                                                                                                                         | Continue to document the number of employees trained and certified in Erosion and Sediment Control procedures.                                                                  |                             |
| On or Before March 10, 2008 | Maintain Erosion and Sediment Control training and/or certifications for County of Roanoke employees.                                                                                                                                                                                                         | Continue to document the number of employees trained and certified in Erosion and Sediment Control procedures.                                                                  |                             |

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**BMP: 4-3. Develop a County sponsored awards program for Exemplary Erosion and Sediment Control Compliance**

**Responsible Party: Community Development**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Measurable Goal</b>                                                                                                                                                                                               | <b>Regional Cooperators</b> |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| On or Before March 10, 2004 | Develop an awards program to recognize developers/contractors who incorporate water quality best management practices and innovative technologies in site design and development projects. Information about the awards program will be included in the Counties storm water web page (BMP 1:8) and in the Stormwater Informational Mailer (BMP 1:2) and the awards will be presented at the Public Forum meeting at Explore Park. | Document the number of awards given and award recipients and dedicate part of the counties storm water web page to the program to let the public know about award recipients and the use of innovative technologies. |                             |
| On or Before March 10, 2005 | Maintain awards program.                                                                                                                                                                                                                                                                                                                                                                                                           | Continue to document the number of awards given and award recipients.                                                                                                                                                |                             |
| On or Before March 10, 2006 | Maintain awards program.                                                                                                                                                                                                                                                                                                                                                                                                           | Continue to document the number of awards given and award recipients.                                                                                                                                                |                             |
| On or Before March 10, 2007 | Maintain awards program.                                                                                                                                                                                                                                                                                                                                                                                                           | Continue to document the number of awards given and award recipients.                                                                                                                                                |                             |
| On or Before March 10, 2008 | Maintain awards program.                                                                                                                                                                                                                                                                                                                                                                                                           | Continue to document the number of awards given and award recipients.                                                                                                                                                |                             |

**Minimum Control Measure 5: Post Construction stormwater management in new development and redevelopment.**

General Summary: The County of Roanoke will be developing a coordinated program for addressing water quality in post construction runoff. The program includes the development of an ordinance and design standards for incorporation of water quality BMP's in Roanoke County development projects (BMP 5:1).

The development of these guidelines will be finalized in the second year of the permit on or before March 10, 2005, and are scheduled for adoption in the third year of the permit on or before March 10, 2006. The County's program includes a comprehensive inspection and enforcement program (BMP 5:2) with bi-annual inspections of water quality controls that begins on or before March 10, 2005. The County's program will be developed as a "watershed based approach" to stormwater management and will consider regional BMP's in lieu of on site approaches. The program may also consider "impact fees" as an alternative to developer constructed facilities. The County will also be getting the benefit of any commitment that the Virginia Department of Transportation includes in its registration statement including right of way maintenance and street sweeping operations.

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**BMP: 5-1. Develop, Adopt and Enforce an ordinance addressing water quality in post construction site storm water runoff. Design the Roanoke County Stormwater Management Ordinance to address water quality, watershed management, design guidelines, and other applications that will meet the VPDES Phase II requirements.**

**Responsible Party: Community Development**

| <b>Commitment Date</b>      | <b>Mission</b>                                                                                                                                                                                                                                                                                                                                                                                           | <b>Measurable Goal</b>                                                                                                                                                                  | <b>Regional Cooperators</b> |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| On or Before March 10, 2004 |                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                         |                             |
| On or Before March 10, 2005 | Develop an ordinance and design standards that specifically address stormwater quality controls in accordance with the current Virginia Stormwater Management Handbook. The Roanoke County Stormwater Management Ordinance will address water quality, watershed management, design guidelines and will provide for surety in post construction long term operation and maintenance of storm water BMPs. | By the end of the second year of the permit, a final draft of the Revised Stormwater Management Ordinance and Design Guidelines will be forwarded to DEQ in the required yearly report. |                             |
| On or Before March 10, 2006 | Adopt an ordinance and design standards that specifically address stormwater quality controls in accordance with the current Virginia Stormwater Management Handbook. The Roanoke County Stormwater Management Ordinance will address water quality, watershed management, design guidelines and will provide for surety in post construction long term operation and maintenance of storm water BMPs.   | Adoption of post construction stormwater quality Ordinance. Final ordinance will be submitted to the DEQ.                                                                               |                             |
| On or Before March 10, 2007 | Enforce the post construction stormwater quality ordinance.                                                                                                                                                                                                                                                                                                                                              | Document the number of BMPs installed, the number of ordinance violations and the total number of developments/projects affected by the Ordinance.                                      |                             |
| On or Before March 10, 2008 | Continue enforcement of the post construction stormwater quality ordinance.                                                                                                                                                                                                                                                                                                                              | Continue to document the number of BMPs installed, the number of ordinance violations and the total number of developments/projects affected by the Ordinance.                          |                             |

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| <b>BMP: 5-2. Develop an Inspection and Enforcement program for maintenance of Post Construction structural stormwater quality controls in new development and redevelopment. The inspection program will be designed to tie into CRS inspections, Flood/911 response calls, flood damage reporting and stream habitat inventory efforts.</b> |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development</b>                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                |                             |
| <b>Commitment Date</b>                                                                                                                                                                                                                                                                                                                       | <b>Mission</b>                                                                                                                                                                                                                                                                                                                                      | <b>Measurable Goal</b>                                                                                         | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                                                                                                                                                                                                                                                                                                  | Review and Evaluate current Erosion and Sediment Control plans. Initiate a program for inspection of facilities. Develop the program to include a component that allows for tracking of current and future plans and a schedule for inspection of all facilities on a bi-annual basis with consideration for emergency and wet weather inspections. | Document structure of program and proposed schedule for inspections.                                           |                             |
| On or Before March 10, 2005                                                                                                                                                                                                                                                                                                                  | Conduct an inventory of structural runoff controls.                                                                                                                                                                                                                                                                                                 | Document the number of stormwater quality controls in place and the number of controls inspected.              |                             |
| On or Before March 10, 2006                                                                                                                                                                                                                                                                                                                  | Develop a GIS to integrate the location of these controls with schedules for regular inspection and maintenance. Conduct two inspections of each structural control per year and conduct regular maintenance as prescribed for each type of practice.                                                                                               | Continue to document the number of stormwater quality controls in place and the number of controls inspected.  |                             |
| On or Before March 10, 2007                                                                                                                                                                                                                                                                                                                  | Continue schedule of inspection and maintenance of facilities.                                                                                                                                                                                                                                                                                      | Continue to document the number of stormwater quality controls in place and the number of controls inspected.  |                             |
| On or Before March 10, 2008                                                                                                                                                                                                                                                                                                                  | Continue schedule of inspection and maintenance of facilities.                                                                                                                                                                                                                                                                                      | Continue to document the number of storm water quality controls in place and the number of controls inspected. |                             |

**Minimum Control Measure 6: Pollution Prevention/Good Housekeeping.**

General summary: The County of Roanoke's Pollution Prevention/Good Housekeeping Measure for County operations program goal is to reduce pollutant runoff from County of Roanoke operations. The County will be assessing current facilities and developing spill prevention plans as a major component of this measure (BMP 6:1). The County will also be developing its storm drain system maintenance program (BMP 6:3).

To increase the knowledge of County employees the program will include a component to train and educate employees about pollution prevention and hazardous waste (BMP 6:4). The County of Roanoke will also continue to participate in the regional effort to hold Household Hazardous Waste collection days (BMP 6:2). Training and the Hazardous waste collection will be coordinated in cooperation with Risk Management. The County will also be getting the benefit of any commitment that the Virginia Department of Transportation includes in its registration statement including any opportunities for training and education.

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| <b>BMP: 6-1. Develop Spill Prevention and Control Plans for Municipal Facilities</b> |                                                                                                      |                                                                                                                     |                             |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development/Risk Management</b>                      |                                                                                                      |                                                                                                                     |                             |
| <b>Commitment Date</b>                                                               | <b>Mission</b>                                                                                       | <b>Measurable Goal</b>                                                                                              | <b>Regional Cooperators</b> |
| On or Before<br>March 10, 2004                                                       | Evaluate current County facilities/departments for development of spill prevention and control plans | Quantify the number of County facilities/departments that require development of spill prevention and control plans |                             |
| On or Before<br>March 10, 2005                                                       | Prepare spill prevention and control plans and conduct associated training for County employees      | Prepare up to three (3) spill prevention and control plans and conduct training associated with each plan           |                             |
| On or Before<br>March 10, 2006                                                       | Prepare spill prevention and control plans and conduct associated training for County employees      | Prepare up to (3) spill prevention and control plans and conduct training associated with each plan                 |                             |
| On or Before<br>March 10, 2007                                                       | Prepare spill prevention and control plans and conduct associated training for County employees      | Prepare up to (3) spill prevention and control plans and conduct training associated with each plan                 |                             |
| On or Before<br>March 10, 2008                                                       | Prepare spill prevention and control plans and conduct associated training for County employees      | Prepare up to (3) spill prevention and control plans and conduct training associated with each plan                 |                             |

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| <b>BMP: 6-2. Participate in a Household Hazardous Waste (HHHW) Collection Event</b> |                                                                                                                                                                  |                                                                                      |                             |
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| <b>Responsible Party: Community Development/General Services</b>                    |                                                                                                                                                                  |                                                                                      |                             |
| <b>Commitment Date</b>                                                              | <b>Mission</b>                                                                                                                                                   | <b>Measurable Goal</b>                                                               | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                                         | Participate in a HHHW Collection Event and distribute materials to citizens on proper storage and disposal of HHHW and alternatives to using hazardous materials | Participate in one (1) HHHW Collection event and distribute informational materials. |                             |
| On or Before March 10, 2005                                                         | Participate in a HHHW Collection Event and distribute materials to citizens on proper storage and disposal of HHHW and alternatives to using hazardous materials | Participate in one (1) HHHW Collection event and distribute informational materials. |                             |
| On or Before March 10, 2006                                                         | Participate in a HHHW Collection Event and distribute materials to citizens on proper storage and disposal of HHHW and alternatives to using hazardous materials | Participate in one (1) HHHW Collection event and distribute informational materials. |                             |
| On or Before March 10, 2007                                                         | Participate in a HHHW Collection Event and distribute materials to citizens on proper storage and disposal of HHHW and alternatives to using hazardous materials | Participate in one (1) HHHW Collection event and distribute informational materials. |                             |
| On or Before March 10, 2008                                                         | Participate in a HHHW Collection Event and distribute materials to citizens on proper storage and disposal of HHHW and alternatives to using hazardous materials | Participate in one (1) HHHW Collection event and distribute informational materials. |                             |

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| <b>BMP: 6-3. Develop and Maintain a Program for Maintenance of Public Storm Drain Systems.</b> |                                                                    |                                                                                                  |                             |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development</b>                                                |                                                                    |                                                                                                  |                             |
| <b>Commitment Date</b>                                                                         | <b>Mission</b>                                                     | <b>Measurable Goal</b>                                                                           | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                                                    | Develop and maintain a program for storm sewer systems maintenance | Document the commitment of 5400 labor hours towards the storm sewer systems maintenance program. |                             |
| On or Before March 10, 2005                                                                    | Maintain a program for storm sewer systems maintenance             | Document the commitment of 5600 labor hours towards the storm sewer systems maintenance program. |                             |
| On or Before March 10, 2006                                                                    | Maintain a program for storm sewer systems maintenance             | Document the commitment of 5800 labor hours towards the storm sewer systems maintenance program. |                             |
| On or Before March 10, 2007                                                                    | Maintain a program for storm sewer systems maintenance             | Document the commitment of 6000 labor hours towards the storm sewer systems maintenance program. |                             |
| On or Before March 10, 2008                                                                    | Maintain a program for storm sewer systems maintenance             | Document the commitment of 6180 labor hours towards the storm sewer systems maintenance program. |                             |

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| <b>BMP: 6-4. Develop and maintain Pollution Prevention and Hazardous Waste training programs for County employees, grounds maintenance workers and landscaping crews.</b> |                                                                                                                                             |                                                                                                                            |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Responsible Party: Community Development/Risk Management/Parks and Recreation/General Services</b>                                                                     |                                                                                                                                             |                                                                                                                            |                             |
| <b>Commitment Date</b>                                                                                                                                                    | <b>Mission</b>                                                                                                                              | <b>Measurable Goal</b>                                                                                                     | <b>Regional Cooperators</b> |
| On or Before March 10, 2004                                                                                                                                               | Develop Pollution Prevention and Hazardous Waste training programs for County employees, grounds maintenance workers and landscaping crews. | Document the number of classes held, the number of workers attending and the material covered by the training.             |                             |
| On or Before March 10, 2005                                                                                                                                               | Maintain training programs.                                                                                                                 | Continue to document the number of classes held, the number of workers attending and the material covered by the training. |                             |
| On or Before March 10, 2006                                                                                                                                               | Maintain training programs.                                                                                                                 | Continue to document the number of classes held, the number of workers attending and the material covered by the training. |                             |
| On or Before March 10, 2007                                                                                                                                               | Maintain training programs.                                                                                                                 | Continue to document the number of classes held, the number of workers attending and the material covered by the training. |                             |
| On or Before March 10, 2008                                                                                                                                               | Maintain training programs.                                                                                                                 | Continue to document the number of classes held, the number of workers attending and the material covered by the training. |                             |