

**Albemarle County
2013 – 2018
MS4 Program**

**Annual Report
– Year 1 –**

**Coverage under VPDES General Permit for
Small Municipal Separate Storm Sewer Systems
VAR040074**

**Albemarle County
Water Resources
401 McIntire Road
Charlottesville, Virginia 22902
(434) 296-5816
www.albemarle.org/water**



**October 2014
(revised June 5, 2015)**

Albemarle County, Virginia is authorized by the Virginia Department of Environmental Quality (DEQ) to discharge stormwater into the State's surface waters by way of a *General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s)* under the Virginia Stormwater Management Program.

This document serves as the Program Plan by which Albemarle County will comply with its General Permit requirements. The Program Plan will be periodically updated to reflect program enhancements to address new requirements per **Table 1: Schedule of MS4 Program Plan Updates Required in this Permit** in the General Permit.

Certification Statement

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.

Sincerely,



Thomas C. Foley
County Executive

This report documents Albemarle County's activities related to the six minimum control measures and other requirements for Year 1 under its 2013 – 2018 general permit for small MS4s (VAR040074). Program activities are carried out by staff from both Albemarle County Local Government (including the Departments of General Services and Community Development) and Albemarle County Public Schools.

The sections that follow are responses to information requested in Section II of the general permit; tables of proposed BMPs include specific progress comments.

Roles and Responsibilities

The personnel responsible for various MS4 programs and their positions within the organization are described in the MS4 Program Plan. There have been no changes to organizational structure or staff roles and responsibilities during the reporting year.

New MS4 Outfalls

The County does not own and maintain a traditional, interconnected storm sewer system. Rather, private developments typically construct onsite stormwater management systems – with associated conveyance systems – which have discharge points into channels or streams.

The County does not have complete records of older privately-owned connections but we now map outfalls associated with new stormwater management facilities and conveyance systems. We also periodically survey streams within the County's designated development areas for outfalls as part of our IDDE program. Any new private outfalls are reported as discussed in the MCM#5 – Permanent Stormwater Management Facilities section of this report.

New County-owned outfalls include the following project which resulted in additional impervious areas and stormwater discharges:

- Crozet Library: 1.02 acres (JR02)

MCM1 – Public Education and Outreach

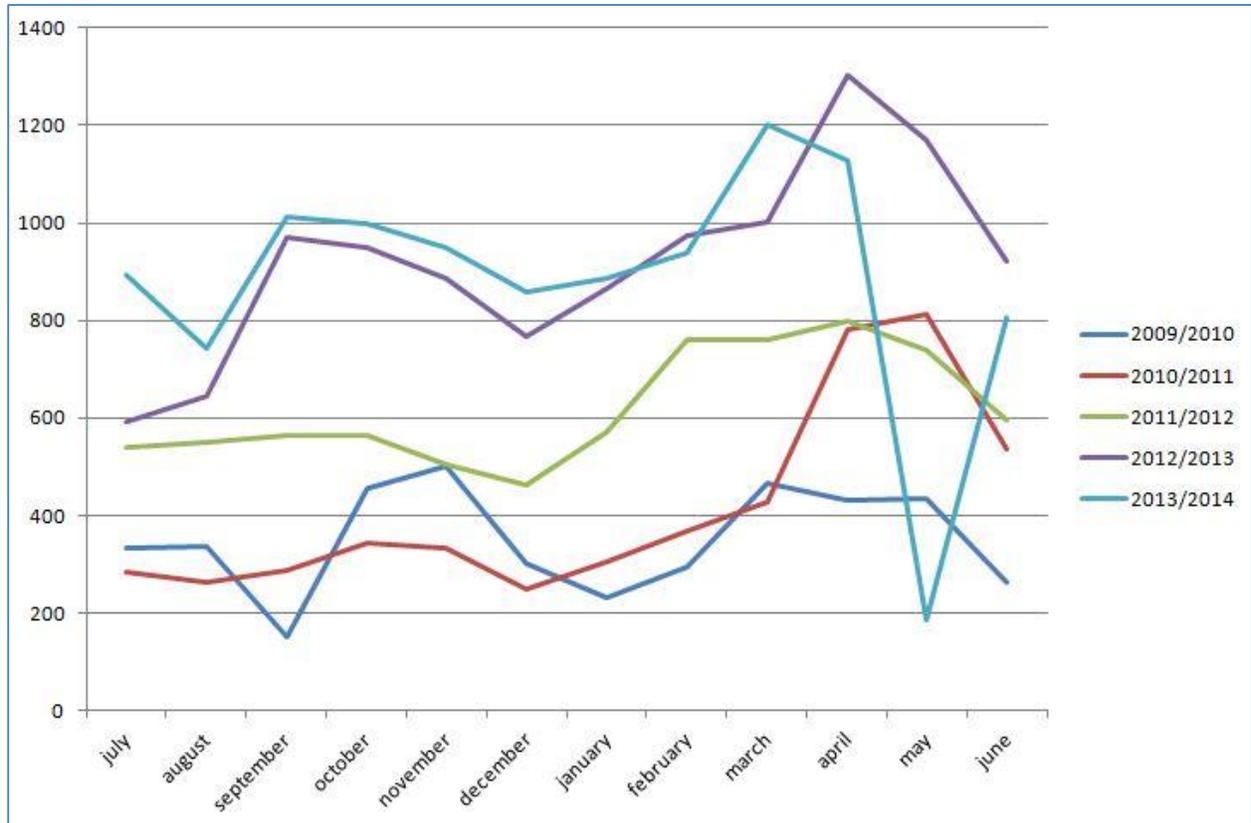
The County, working in collaboration of other local MS4 operators, updated the Public Education and Outreach plan to meet the requirements in Section II.B.1. The plan is described in the County's [MS4 Program Plan](#).

Several County divisions maintain separate websites to provide information and announcements to online visitors:

- Local Government Water Resources: www.albemarle.org/water
- Local Government Environmental Management: www.albemarle.org/environment
- Schools Environmental Management:
<http://www2.k12albemarle.org/dept/osp/building/environmental/Pages/Stormwater-Management.aspx>

The County (both Local Government and Schools) has continued its fruitful collaboration with other local VPDES permit holders – the City of Charlottesville, the University of Virginia, the Rivanna Water and Sewer Authority, and the local Virginia Department of Transportation – in implementing education and involvement efforts through the Rivanna Regional Stormwater Education Partnership (RRSEP). The Thomas Jefferson Soil and Water Conservation District (TJSWCD) serves as the partnership coordinating body. The partnership website is <http://www.rivanna-stormwater.org/>.

Since 2009, the partnership has received monthly reports on website traffic. A summary of monthly *unique visitors* to the RRSEP site is presented in the graph on the following page as an overall indication of public interest.



Total *unique visitors* – by reporting year – follows:

reporting year	total unique visitors
2009/2010	4,202
2010/2011	4,997
2011/2012	7,418
2012/2013	11,047
2013/2014	10,600

As indicated, interest in the web site has grown significant over the last five year. This can be attributed – in part – to the variety of educational campaigns to increase awareness about water quality issues and the promotion of the website. Web statistics reports are included as attachment 1a.

RRSEP meets at least six times per year to discuss and organize initiatives and share information pertaining to meeting stormwater permit requirements. This past reporting year, the partnership met seven times; meeting minutes are provided as attachment 1b. Specific activities that the partnership undertook this past year include:

- Redfields (residential subdivision) HOA pet waste presentation (July 2013)
- presentation and free pet waste composter given at Fry's Spring Neighborhood Association meeting (September 2013)
- ad for Fall BMPs posted on 25 [Charlottesville Area Transit](#) buses (September 2013)
- quarter-page ad for Fall BMPs placed in [C-ville Weekly](#) (October 2013)
- staffed a table with display promoting proper pet waste disposal and gave away a free pet waste composter at Fry's Spring Neighborhood Association Oktoberfest (October 2013)
- animated video ad on water pollution issues (sediment, nutrients, bacteria) aired before every movie at 14 Stonefield Regal Theaters for a period of one month (March – April 2014)
- staffed a table at the annual Charlottesville Eco-Fair with display promoting stormwater pollution prevention for 7 hours and handed out brochures and magnets promoting pollution prevention practices (April 2014)
- RRSEP 5-year MS-4 Education plan posted on web site (April – May 2014)
- quarter-page ad for Spring BMPs placed in [C-ville Weekly](#)
- water pollution prevention flyers sent to 42,000 households with county and city utility bills (April 2014)
- 2 pet waste stations installed in Sherwood Manor Subdivision (June 2014)

In addition to the above RRSEP activities, staff of the TJSWCD continues to conduct public education activities on behalf of the County under an ongoing contract; the contract, beginning July 1, 2012, is included as attachment 2a. Reports of activities for the reporting year (approximately 1200 total hours) are included as attachment 2b. Highlights of these activities include:

- watershed education for County students at [Camp Albemarle](#) (more info below)
- developed educational ads for use by RRSEP
- refinements to IDDE-related GIS information
- assistance with inspections of privately-owned stormwater facilities

The TJSWCD continues to provide environmental education to County public school student through the [Meaningful Watershed Education Experience](#) (MWEE). During the months of September and October 2013 and April and May 2014, approximately 1060 Albemarle County Public School 4th graders and 250 adults took part in (MWEEs) on the Mormons River at [Camp Albemarle](#) which included an Enviroscape watershed model and biological stream monitoring. A summary of the activities included as attachment 2c.

Homeowners associations continue to request [BMP signs](#) – provided by the County at no charge – to post at the site of their stormwater management facilities. The signs are intended to educate people on the facility's purpose and to describe what should be done or avoided in order to improve the performance and longevity of the facility. The Public Schools maintains an educational sign at Broadus Wood Elementary School at a biofilter and a sign has been fabricated but not yet installed at a new County stormwater wetlands system in the town of Crozet.

Beyond participation in the RRSEP, County personnel were involved in the following educational activities during the reporting year:

- gave periodic short presentations about County water resources programs to new employees – "Getting to Know Albemarle"

- gave multiple tours of stormwater facilities and native landscapes on County properties as part of Virginia Native Plant Society Annual Conference, VNPS monthly meetings, and local Master Naturalist training program
- gave presentation on TMDLs and County water resources programs to Local Government Paralegal Conference
- gave tour of greenroof to UVA introductory planning course
- partnered with UVA and Charlottesville staff to give presentation entitled “Stormwater: Driven by Regulation – Accomplished by Community Collaboration” to the [Planning and Coordination Council](#) (a partnership of UVA, Charlottesville, and Albemarle)
- gave tour of Crozet Stormwater Wetlands project to County employees as part of internal learning and development program

Summary of activities conducted

activity	estimate number of people reached	estimated percentage of audience reached ⁴
WQ issue – bacteria		
Spring BMP ad placed in C-ville Weekly	20,000 ¹	25%
water pollution prevention flyers in utility bills	42,000	53%
animated video ad at 14 Stonefield Regal Theaters (mid-March – mid-April)	33,200 ²	42%
annual Charlottesville Eco-Fair	300	(negligible)
Redfields HOA pet waste presentation	20	(negligible)
Sherwood Manor pet waste stations	100	(negligible)
WQ issue – sediment		
animated video ad at 14 Stonefield Regal Theaters (mid-March – mid-April)	33,200 ²	42%
WQ issue – nutrient		
Fall BMP ad placed in C-ville Weekly	20,000 ¹	25%
animated video ad at 14 Stonefield Regal Theaters (mid-March – mid-April)	33,200 ²	42%
water pollution prevention flyers in utility bills	42,000	53%
Fall BMPs posted on 25 buses (3 mths)	12,000 ³	15%

¹ based on weekly distribution rates

² based on average monthly theater attendance of 49,800 and assuming 50% of moviegoers watch 2 movies

³ based on ridership of 6,000 per day and assuming number of unique riders equals 2x daily ridership

⁴ assume Charlottesville/Albemarle urban population = 80,000

We anticipate conducting the same activities as those listed above during Year 2 of the current permit cycle.

MCM2 – Public Involvement and Participation

The County’s [MS4 Program Plan and annual reports](#) are available online at the Water Resources website (www.albemarle.org/water). To date, we have received no public comments – written or otherwise – regarding the plan and reports.

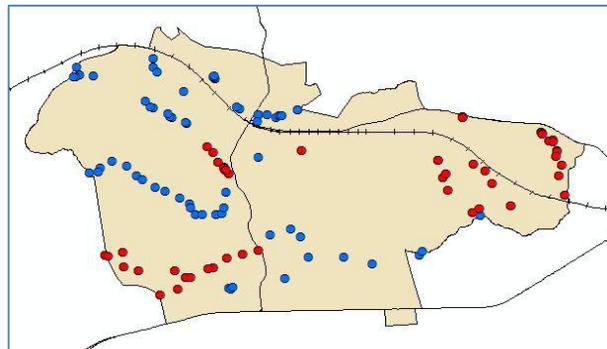
We have organized and/or participated in – sometimes through the RRSEP – multiple events in which the public was invited to participate, including the following:

- presentation on County water resources programs at Rivanna Conservation Society’s Brown Bag Lecture Series – January 16, 2014
- presented proposed 5-year MS4 Public Education and Outreach plan to invited local conservation partners – March 10, 2014
- as part of Rivanna Conservation Society’s stream cleanups, promoted and participated in cleanup of streams and natural areas within Woodbrook Lagoons, a County Stormwater Management Area – April 19, 2014
- presentation on County TMDL action planning to Places 29 Advisory Committee – June 26, 2014

MCM3 – Illicit Discharge Detection and Elimination

Albemarle County has not notified any other local MS4 of physical interconnections. Since the County’s regulated area abuts those of Charlottesville, UVA, PVCC, and VDOT, it is likely that there are existing storm sewer connections between neighboring MS4s. These interconnections will be illuminated as each entity completes the mapping of our respective storm sewer systems. However, the County has not engaged in any activity which resulted in the creation of new interconnections during this reporting period.

The County has continued conducting an IDDE survey of all perennial and intermittent streams within the County’s urban areas. The survey includes mapping storm sewer, culvert, and tributary channel outfall locations and conducting a visual screening for signs of illicit discharges. Over the last eight years, approximately 925 outfalls have been surveyed. During this reporting year, 51 outfalls were surveyed in the town of Crozet. The geographic extent of Crozet outfall points is indicated in the image to the right (red points were inspected during this reporting year; blue points were inspected during the previous reporting year). It should be noted that last year, it was mistakenly reported that 31 outfalls were inspected; the number of outfalls inspected was actually 65. The inspections have revealed no suspicious discharges.



The survey record includes outfall ID, the date, a photo, a description of the outfall infrastructure, and physical indicators of possible illicit discharges. An inventory field sheet was developed based on the 2004 IDDE guidance manual prepared by the Center for Watershed Protection and Robert Pitt; an example sheet was included in last year’s report.

The County annually responds to a few communications by the public of suspected illicit discharges through its web-based reporting form at the [RRSEP website](#). Additional reports or inquiries from the public come through the normal County phone system or forwarded by colleagues. Reported suspected illicit discharges received during the reporting period are summarized below; this summary does not include issues related to erosion and sediment control.

Summary of IDDE Reports

Date	Observation/ Report	Response	Outcome
June 2013	Report via various means	Ongoing foam discharging from large storm outfall on North Forth Rivanna River just downstream from Hyw 29 behind Riverside Shopping Center.	County staff have provided action plan to DEQ and is presently investigating. Staff has analyzed samples from this site in years past.
October 23, 2013	Report via RRSEP web form: ACAC discharging water from pools into Four Seasons lake	County staff met with ACAC representatives and notified them that they must allow discharged pool water to de-chlorinate before discharging into surface waters. In addition, backwash water from filters cannot be discharge	ACAC is scheduled to connect backwash water discharge into sanitary line during fall 2014.
November 19, 2013	Report via telephone: railroad maintenance left debris along North Fork Rivanna River	County staff contacted Jeremy Mills (track supervisor) of Norfolk Southern Railroad and then Matt Borasky (bridge and building supervisor) to learn that maintenance crew left debris in a hurry to leave the site.	The site was cleaned up by the maintenance crew in January.
March 8, 2014	Report via RRSEP web form: fund-raiser car wash at Bob's Wheel Alignment	This occurred on a Saturday; there was no response.	The County will be considering a formal position on car wash fund-raisers.
June 2, 2014	Report via RRSEP web form: Suspected oil-like discharge into ditch in residential common area	An inspection revealed the presence of iron bacteria which creates a film on the water surface resembling oil sheen.	

A complete record of reported suspected illicit discharges and other types of inquiries and complaints is maintained in a database.

The Fire Marshal's office and Zoning and Code Enforcement in the Department of Community Development respond separately to many complaints which may relate to IDDE. We are working towards a more detailed understanding as to which office responds to various types of issues and how to best coordinate information management. General Services

The TJSWCD continues to assist the County in implementing its IDDE program under a two-year contract (attachment 2a). Reports of activities for year 5 are included as attachment 2b. Highlights of these activities include outfall mapping and responding to alleged illicit discharges.

MCM4 – Construction Site Stormwater Runoff Control

Albemarle County has been authorized by DEQ as a local authority of the Virginia Stormwater Management Program. The DEQ authorization letter is included as attachment 3.

The County revised the Water Protection Ordinance (WPO) during the reporting year to incorporate the new State requirements pertaining to erosion and sediment control and stormwater management. It continues certain pre-existing programs of the County that exceed the minimum State standards, specifically the County’s stream buffer protection program. The various rules of the WPO were reorganized to better facilitate their administration. The WPO is 76 pages long; it is available for review [online](#).

Property owners preparing to engage in land disturbing activities must obtain a permit from the Community Development Department prior to the commencement of land disturbance. The standards and specifications for erosion and sediment control are no different than State regulations except the County has more stringent standards, as follows:

- denuded areas must be stabilized with permanent vegetation within nine months after commencing land disturbing activity (with caveats and opportunities for extensions)
- the zoning ordinance limits the use of fill or waste areas to one year

The following table is a summary of regulated land-disturbing activities for the reporting period. The detailed information can be made available upon request.

total number of regulated new land-disturbing activities	43
total disturbed area (acres)	225.79
total number of inspections conducted	1477
summary of enforcement actions:	
• re-inspections (fee)	30
• warnings	66
• notice	39
• stop work	10

MCM5 – Post-Construction Stormwater Management in New Development and Redevelopment

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The County periodically inspects permanent privately and publicly-owned stormwater BMPs. The number of facilities within the County has grown to be about 915. Our goal is to inspect each facility at the rate specified in the program plan but, at a minimum of once every permit cycle. The locations of

the facilities are maintained in a GIS and other data are maintained in a database. County staff inspected 71 stormwater facilities during the reporting year.

A new inspection database – developed around CityView software used by many other County divisions, such as permitting and code enforcement – continues to be refined to enhance the productivity of inspections and the various follow-up activities. Information in the database and GIS is joined.

A listing of new permanent stormwater management facilities brought online during the reporting year is included as attachment 4 and will be made available in digital format.

MCM6 – Pollution Prevention & Good Housekeeping

Through our Environmental Management Policy, the County is committed to environmental compliance, pollution prevention, and continual environmental improvement. Many of the efforts related to the County's implementation of an Environmental Management System (EMS) satisfy requirements under this stormwater permit. Local government and Public Schools have separate programs administered by different staff. Highlights of this program include:

- All waste materials from our facilities are disposed of properly and contained in covered dumpsters. Dumpsters at local government and school locations were all replaced in November 2012 and are required to be cleaned on a regular basis by waste hauler.
- A contractor agreement is in place for the majority of our maintenance, grounds, and custodial contracts that states that any contractor doing work in/on our facilities will not dump anything down a storm drain. All contractors, including painters, general construction contractors, and carpenters, must sign this document before any work is conducted.
- We have implemented our Safer Chemical Management Policy, which mandates that Green-certified cleaners be used and that the majority of herbicides be bio-based.
- We have implemented an Integrated Pest Management (IPM) program for the safer treatment of indoor pests as part of the Safer Chemical Management Policy.
- Albemarle County was certified at the Gold Level in the Virginia Municipal League's "Go Green Virginia" challenge which is a statewide competition for localities to showcase their various pollution prevention-related programs; Albemarle County Public Schools was also certified at the Gold Level.
- As part of our internal energy conservation program, which is likely our most robust pollution prevention initiative, we earned the ENERGY STAR label for two of our County office buildings and achieved a 31% overall energy reduction goal by the end of calendar year 2012.
- We've achieved E3 level certification in VDEQ's Virginia Environmental Excellence Program (VEEP) for the Department of General Services and Department of Parks and Recreation fencelines.
- The County Public Schools has achieved E3 level certification in VDEQ's Virginia Environmental Excellence Program (VEEP).
- The County Public Schools has developed an integrated pest management program for indoor and outdoor pest/weed control. This minimizes the amount of pesticides and herbicides used on school properties and subsequently discharged in stormwater.
- The County Public Schools also developed a program to save potable water and reduce unnecessary runoff by adjusting schedules and irrigation amounts based on monitored rainfall.
- Weekly inspections are done at a permitted vehicle wash outfall. Interior automated wash bay reduces number of vehicles being washed at exterior bay.

- Two County schools and the new Crozet Library are registered LEED for Existing Buildings.
- Two County schools received state level recognition as a Green Ribbon School; one school received national level recognition.
- A rain barrel was installed at Greer Elementary to a water garden in the courtyard.
- Maintenance and custodial personnel at fuel site locations were trained on cleanup measures and emergency response.

County staff is currently in the process of developing daily operational procedure, due as part of the next annual report. While we have identified locations requiring SWPPPs (see Program Plan), we have not begun to develop them, which are due in 2017. Likewise, while we have identified areas requiring nutrient management plans (NMPs) and many of these areas are already under a NMP, we intend to update the NMP and include additional areas (see Program Plan).

The following summarizes the training undertaken by employees during the reporting period.

training event	training date	number of employees attending	training objective
Hazardous Material Operation/OSHA Level II	August 21 and 22, 2013	9 General Services 6 Parks and Recreation	8-hour annual refresher
Hazardous Communication	October 9 and November 21, 2013	21 General Services 15 Parks and Recreation	environmental compliance programs and preventing stormwater pollution during day-to-day activities and operations
Basic Good Housekeeper and Pollution Prevention	various dates throughout 2013/2014 winter/spring	~ 100 various Public Schools staff	preventing stormwater pollution during day-to-day activities and operations

Assessment of Appropriateness of Identified BMPs

Albemarle County’s MS4 Program has been recently updated to reflect new regulations in the General Permit, new guidance from DEQ, new stormwater management regulations, and the delegation of the Virginia Stormwater Management Program (VSMP). MS4 programs are designed to be adaptive to changes in requirements, local and regional conditions, available resources, and the state of best practices. As such, the professionals responsible for implementing this program will, as needed, make adjustments to policies, procedures, or activities to improve the effectiveness in meeting permit requirements and the more fundamental goal of improving the health of local and regional waters.

County staff believes that the BMPs being implemented are appropriate to meet the requirements and intent of the MS4 General Permit.

Progress towards Achieving Measurable Goals for Each MCM

The preceding sections summarize activities the County has completed during the reporting year for each minimum control measure (MCM).

Notice that County is Relying on Outside Party

As indicated in previous sections, Albemarle County continues to receive services related to implementation of its MS4 program plan from staff of the TJSWCD. The current contract for services is from July 1, 2012 through June 30, 2014 (attachment 2a).

TMDL Action Planning

Per requirements in Section I.C. of the General Permit, the County will be preparing an Action Plan for the Chesapeake Bay TMDL. The Action Plan will summarize the County's pollutant reduction responsibilities for the current permit cycle (through June 30, 2018) and describe how the reductions will be achieved. The Action Plan will be submitted to DEQ with the Annual Report by October 1, 2015.

Activities Planned for Next Reporting Period

In addition to continuing the implementation of core programs and initiatives, the County will focus on the following activities during the 2014 – 2015 reporting period.

- complete required TMDL action planning
- make progress on mapping storm sewer system within the regulated area
- complete the development of daily good housekeeping procedures
- include additional staff in good housekeeping/pollution prevention training
- formalize the progressive compliance and enforcement procedures
- improve information management
 - create an MS4 information hub – a intranet-based focal point for storing data, collaborating on implementation, and facilitating assessments and reporting
 - enhance stormwater facility database – enhancements will be focused on automating the flow of necessary communications and actions
 - better organize data from outfall screenings, reported IDDE responses, and drainage complaint responses
- improve web-based resources for BMP owners

To better carry out the growing responsibilities of the MS4 Program and the increased obligations under the recently-delegated VSMP, the County recently hired several new regulatory positions in the Dept of Community Development and is in the process of hiring two fulltime positions – a water resources engineer and an inspector – and one halftime position – an office associate in the Dept of General Services. These positions will begin in January 2015.

The County is also considering establishing a dedicated mechanism to fund water resources programs. The Board of Supervisors has selected a group of stakeholders to comprise a Water Resources Funding Advisory Committee which is tasked with facilitating a public engagement process and making recommendations to the Board by late next calendar year. This process will be supported by a funding consultant.

List of Attachments

- 1) Rivanna Regional Stormwater Education Partnership
 - a) website statistics
 - b) meeting minutes
- 2) TJSWCD Documents
 - a) contract to provide services: July 1, 2012 – June 30, 2014
 - b) summary report of activities for period July 2012 – June 2013
 - c) summary of MWEE activities
- 3) DEQ letter authorizing Albemarle County as VSMP local authority
- 4) New Permanent BMP Data