



CITY OF RICHMOND

DEPARTMENT OF PUBLIC UTILITIES

OFFICE OF THE DIRECTOR

OFFICE OF THE DIRECTOR OF CONSERVATION  
CENTRAL OFFICE - RICHMOND

2010 SEP 29 P 3:50

RECEIVED

September 28, 2010

Mr. J. Douglas Fritz  
MS4 Program Manager  
Virginia Department of Conservation and Recreation  
101 North 14<sup>th</sup> Street  
Richmond, Virginia 23219

Re: City of Richmond Municipal Separate Storm Sewer System (MS4)  
2009-2010 Annual Report for Permit Number VAR040005

Dear Mr. Fritz:

Please find enclosed the annual report for July 1, 2009 through June 30, 2010. The annual report was prepared in accordance with current MS4 permit regulations, 4VAC50-60-1200, *et seq.*

If you have any questions or concerns please contact Robert Steidel, Interim Director of Public Utilities, at (804) 646-8311.

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,

A handwritten signature in black ink, appearing to read "Robert C. Steidel".

Robert C. Steidel  
Interim Director

Attachments: City of Richmond MS4 2009-2010 Annual Report  
2010 Annual Report Monitoring Data  
BMP Inventory Summary  
Illicit Discharge Investigation Summary

cc: Michelle Virtz, Deputy Director, Department of Public Utilities

# City of Richmond

## Municipal Separate Storm Sewer System

### 2009 - 2010 Annual Report

#### Introduction

This annual report covers the reporting cycle July 1, 2009 through June 30, 2010 Permit Year 2. The report includes the status of compliance with the permit conditions, the appropriateness of the best management practices to meet the measurable goals of the program plan, and the reporting requirements of the general permit.

Roles and responsibilities described in the program plan have not changed during this reporting period with the exception of the Erosion and Sediment Control and Chesapeake Bay Programs. The programs were transferred from the Department of Community Development to the Department of Public Utilities. DPU now administers all aspects of stormwater management including operation and maintenance, design, construction, and regulatory compliance. New Municipal Separate Storm Sewer System (MS4) outfalls were not been constructed during this reporting period.

The status of the MS4 program plan and a summary of the activities planned for the next reporting cycle are found in the following section. Modifications to Best Management Practices (BMPs) 5.1 and 5.2 are proposed during this reporting cycle. These BMPs will incorporate the draft state stormwater regulations into the City's stormwater program. The draft state stormwater regulations have not been finalized during this reporting period and the City requests to implement these BMPs when the regulations are adopted.

The City of Richmond does not rely on another government entity to satisfy any of the permit obligations.

Monitoring data from Reedy Creek and collected during this reporting cycle is included with this report in Attachment (A). The City identified four illicit discharges during this reporting cycle. The illicit discharges and corresponding corrective action are documented in Attachment (B).

Land disturbing activities during the reporting cycle included 138 permits issued and 136.246 acres of land disturbance.

A full inventory of BMPs located within the jurisdiction is included in Attachment (C). New structural BMPs constructed during the reporting cycle are listed in Attachment (D).

## **MS4 Program Plan Compliance Status**

### **1.0 Program Management**

#### **Description**

As DPU incorporates stormwater management into the department's responsibilities, each BMP will be evaluated for appropriateness and updated as necessary. Additionally, each BMP will be evaluated and revised as needed to comply with the changes to the revised permit regulations. The objective of this BMP is to provide an evaluation tool for the stormwater management program to be more effective in reducing nonpoint source pollution from the MS4.

#### **Measurable Goal**

In permit year 1, DPU successfully initiated a stormwater utility. DPU is currently updating the program plan to comply with the revised MS4 permit regulations, 4VAC50-60 Part XV.

In permit year 2, DPU completed its update of the program to comply with revised MS4 permit regulations, 4VAC50-60 Part XV.

#### **Schedule of Activities for Next Reporting Cycle**

In permit years 3 through 5, DPU will incorporate stormwater management into department responsibilities and assess the MS4 Program Plan to determine if proposed BMPs are effective in reducing pollution discharges from the MS4.

### **1.1 Stormwater Public Education**

#### **Description**

DPU manages public education for stormwater management as well as the wastewater, water, and gas utilities. The objective of this BMP is to provide an educational resource for residents on stormwater runoff and how they can help improve the water quality of the receiving waters in the City.

#### **Measurable Goal**

In permit year 1, the City continued participation in the Chesapeake Club. Additionally, the City developed a semi-annual stormwater management newsletter.

In permit year 2, the City incorporated stormwater management information in the quarterly newsletter "Clean Streams", included in utility bills.

The City also began a quarterly "lunch and learn" program for employees to learn about stormwater.

The Utility held several public meetings during the period to educate citizens regarding the stormwater utility and its programs and benefits.

## **Schedule of Activities for Next Reporting Cycle**

In permit year 3, DPU will evaluate resources, including staffing and budgeting, to ensure DPU has adequate support to maintain a public outreach program. The City will also incorporate stormwater information into DPU's Large Volume Customer meeting.

## **2.1 Stormwater Public Involvement**

### **Description**

DPU maintains a stormwater management website to make information on the stormwater management program readily available for City residents. The objective of this BMP is to be a tool to promote public involvement in preventing pollution of stormwater runoff.

### **Measurable Goal**

The City added a Stormwater page to its website and posted the MS4 Program Plan and 2008 Annual report along with FAQ's and links to other information to support the stormwater utility.

In addition to the website, DPU worked with the Department of Parks, Recreation & Community Facilities to construct pet waste disposal bags in several City parks. [Citizens used](#) approximately 11,000 baggies in 2009 at 14 dispensers, with 7500 at the heavy use sites. The program was successful in educating the public to clean up pet waste and DPU plans to continue to provide bags at each location.

During permit year 2, the City participated in a citizen led effort to monitor water quality in Reedy Creek by analyzing the samples at its Wastewater Treatment Plant Laboratory. This effort will continue throughout 2009 - 2010.

## **Schedule of Activities for Next Reporting Cycle**

In permit years 3 through 5, DPU will maintain the stormwater management website, in addition to collaborating with the Reedy Creek Coalition and Alliance for the Chesapeake Bay to monitor the water quality in Reedy Creek.

## **Industrial Pre-treatment Permit Holders Award Ceremony**

DPU inspects pretreatment program permittees annually for compliance. An awards ceremony is held every two years to recognize permittees who remain in compliance and who are environmental stewards.

### **Measurable Goal**

DPU continues to implement the awards program; the ceremony was on February 25, 2010 and included awards for stormwater management of commercial, government and small projects. The next awards program is in spring 2011.

### **3.1 Storm Sewer System Inventory**

#### **Description**

The City has a GIS inventory of the storm sewer system that includes pipes, ditches, outfalls, BMPs, and other storm sewer infrastructure. The objective of this BMP is to develop a method to update and maintain the City's storm sewer system GIS inventory.

#### **Measurable Goal**

DPU prepared a departmental procedure to identify roles and responsibilities for updating and maintaining GIS information needed to support the stormwater utility. This information includes parcels, impervious areas, and storm sewer infrastructure. DPU has developed a baseline inventory. Additionally, DPU has determined 23 downstream regulated MS4s which connect to the City's MS4s.

In permit year 2, DPU hired a consultant to begin updating the remaining storm sewer system. The storm sewer system inventory will be completed in permit year 3.

#### **Schedule of Activities for Next Reporting Cycle**

In permit year 3, DPU will field locate the remaining storm sewer system as necessary and implement the procedure developed in permit year 1.

In permit year 4, DPU will continue to update and maintain the storm sewer system inventory and evaluate the progress in updating this information.

### **3.2 Illicit Discharge Detection and Elimination**

#### **Description**

DPU has a process to inspect and reduce illicit discharges through the industrial pretreatment program and the Community Assisted Public Safety (CAPS) program. The objective of this BMP is to reduce illicit discharges to the MS4.

#### **Measurable Goal**

In permit year 1, DPU collected baseline chemical and biological information for five of the initial nine major tributary outfalls to the James River. In addition, DPU developed an illicit discharge ordinance, an enforcement guide, and a spill response checklist to better define authority, regulation, and enforcement.

A list of illicit discharges investigated in 2009 is in Appendix B.

#### **Schedule of Activities for Next Reporting Cycle**

Throughout the permit term, DPU will continue to inspect and eliminate illicit discharges through the pretreatment program and the CAPS program.

### **3.3 DPU Inspector Training and Education Program**

#### **Description**

DPU IWP inspectors conduct annual inspections of the industrial pretreatment permit holders. The objective of this BMP is to make sure DPU inspectors are educated in the procedures of illicit discharge inspections.

#### **Measurable Goal**

In permit year one DPU developed an enforcement guide for DPU staff involved with the pretreatment program. No new activities were completed in permit year 2.

#### **Schedule of Activities for Next Reporting Cycle**

In permit years 3 through 5, DPU will implement a training program using the enforcement guide.

### **4.1 Erosion and Sediment Control Program**

#### **Description**

The Department of Public Utilities assumed management of the City's erosion and sediment control program in 2009 from the Department of Community Development (DCD). The objective of this BMP is to continue to administer an erosion and sediment control program in accordance with the Virginia Erosion and Sediment Control Regulations, Section 4VAC50-30.

#### **Measurable Goal**

In permit year one DCD/DPU worked to bring the erosion and sediment control program into compliance with DCR requirements by updating the City's erosion and sediment control ordinance. DPU became fully compliant during the permit year. Additionally DPU evaluated the requirements to convert outdated HUC codes to VAHU6 codes in the Cornerstone database.

In permit year 2, the City incorporated VAHU6 codes into the Cornerstone database.

#### **Schedule of Activities for Next Reporting Cycle**

During permit year 3, the City will incorporate new program components and training to comply with VSMP construction permits when the State VSMP Construction Permit regulations are adopted.

## **4.2 Erosion and Sediment Control Design Standards**

### **Description**

The City reviews construction plans and erosion and sediment control plans for compliance with the City's erosion and sediment control ordinance. The objective of this BMP is to minimize the impact of land-disturbing activities on receiving waters.

### **Measurable Goal**

The City continues to maintain DCR erosion and sediment control certifications for all plan review staff. Additionally, the City developed and implemented a standard erosion and sediment control checklist for plan review. The Checklist is available on line on the City's website.

### **Schedule of Activities for Next Reporting Cycle**

The City will continue to review erosion and sediment control plans in accordance with the erosion and sediment control ordinance. In addition, in permit year 3, the City will review work force requirements to ensure the program staff levels are appropriate.

## **4.3 Erosion and Sediment Control Inspection and Enforcement**

### **Description**

The City inspects all construction activities that have land disturbance permits. The objective of this BMP is to ensure compliance with land disturbance permits in order to minimize the impact of land-disturbing activities on receiving waters.

### **Measurable Goal**

The City continues to maintain DCR erosion and sediment control certifications for all inspection staff. Additionally, the City evaluated the inspection frequency and increased inspections for all land disturbance permits. The City also began documenting inspections with paper inspection checklists as well as notes in Cornerstone.

### **Schedule of Activities for Next Reporting Cycle**

The City will continue to inspect land disturbing activities in accordance with the erosion and sediment control ordinance.

## **5.1 Stormwater Management**

### **Requirements Description**

The City requires structural BMPs for land development projects located within a RMA in accordance with the Chesapeake Bay Program. DPU will develop and implement a stormwater management program to manage the VSMP Construction Permit authority once the proposed revisions to the state regulations, 4VAC50-60 Parts I, II, IN and XIII, are adopted. The objective of this BMP is to reduce the impacts of new development and redevelopment on receiving waters.

### **Measurable Goal**

In permit years one and two DPU continued to track the draft state stormwater regulations. This goal will take effect once the new state regulations, 4VAC50-60 Parts I, II, IN, and XIII, have become final.

DPU will continue to monitor the regulations and implement the stormwater management program in accordance with DCR's schedule.

### **Schedule of Activities for Next Reporting Cycle**

DPU will implement the City's VSMP construction permit program when the schedule is provided by DCR.

## **5.2 Stormwater Management Ordinance**

### **Description**

The city is in the process of developing a stormwater management ordinance to address post-construction runoff from new development and redevelopment to ensure compliance with the Virginia Stormwater Management Act. The ordinance will, at a minimum, provide technical criteria, procedures for submission and approval of plans, and will establish provisions and the authority for construction inspection, long-term inspection and maintenance, enforcement, and fee structures. Additionally, the ordinance will encourage the use of Low Impact Development techniques to reduce peak flows managed by the small MS4 in an effort to maintain or replicate pre-development runoff characteristics and site hydrology.

### **Measurable Goal**

In permit year 2, DPU reviewed a proposed City Code chapter 106, specifically including a component to encourage the use of LID to maintain or replicate predevelopment runoff characteristics and site hydrology to meet existing VSMP permit requirements. DPU also created an implementation plan delegating authority to enforce compliance with the regulations. DPU is awaiting the adoption of the draft state stormwater regulations to complete this BMP.

### **5.3 Structural BMP Inventory**

#### **Description**

DPU maintains a database and GIS inventory of all certified structural BMPs. The objective of this BMP is to provide an inventory of all certified structural BMPs within the City.

#### **Measurable Goal**

In permit year 1, DPU evaluated the existing BMP database and GIS inventory for completeness and accuracy. Additionally, DPU reviewed development projects constructed between 2003 and 2008 for additional BMPs to add to the database. DPU prepared a departmental procedure to identify roles and responsibilities for updating and maintaining GIS information needed to support the stormwater utility including BMP information. An updated BMP list is in Attachment D.

In permit year 2, DPU evaluated the database for completeness and accuracy. A copy of the inventory is in Attachment C.

#### **Schedule of Activities for Next Reporting Cycle**

DPU will continue to maintain and update the BMP database and GIS inventory throughout the five-year permit term.

In permit years 3 through 5, DPU will gather any missing data as determined in permit year 2.

### **5.4 BMP Inspection and Maintenance**

#### **Description**

The city has a structural BMP inspection and maintenance plan for City-owned BMPs. Maintenance agreements are required for privately owned BMPs constructed to comply with the Chesapeake Bay Program and for detention BMPs. The objective of this BMP is to provide an inspection and maintenance program to ensure proper function and maintenance of all structural BMPs in the City in an effort to protect receiving water.

#### **Measurable Goal**

In permit year 1, DPU evaluated existing BMP maintenance manuals that can be used to train DPU staff responsible for BMP inspection and maintenance.

In permit year 2, DPU provided BMP inspection and maintenance training for all stormwater operations staff. Additionally, DPU inspected and maintained City-owned BMPs as necessary.

#### **Schedule of Activities for Next Reporting Cycle**

DPU will continue to manage the BMP inspection and maintenance program throughout the five-year permit term.

In permit year 3, DPU will develop an inspection program for all privately owned BMPs.

## **6.1 Stormwater Management at City Facilities**

### **Description**

Satellite operation facilities exist for DPU, DPW, Parks & Recreation, and Schools. The objective of this BMP is to prevent pollution at operation facilities from entering the MS4.

### **Measurable Goal**

In permit year 1, DPU developed an access database inventory of all City and schools facilities using GIS information. In addition to the measurable goal required for this BMP, the City of Richmond maintained compliance with the Combined Sewer Overflow Nine Minimum Controls.

In permit year 2, DPU evaluated the staff and resources needed to inspect City facilities through the pretreatment program.

### **Schedule of Activities for Next Reporting Cycle**

In permit years 3 through 5, DPU will inspect permitted City facilities per the pretreatment permit program.

## **6.2 Employee Pollution Prevention Training and Education**

### **Description**

DPU will implement an employee-training program for operations staff involved with vehicle maintenance and field activities that may affect the MS4. The objective of this BMP is to provide pollution prevention training to City employees to inform them of proper practices to reduce the potential of pollutants entering the MS4.

### **Measurable Goal**

In permit year 1, DPU purchased a DVD training course for stormwater pollution prevention. Additionally in permit year 2, DPU obtained the Department of Environmental Quality Environmental Excellence (E3) certification.

### **Schedule of Activities for Next Reporting Cycle**

In permit years 3 through 5, DPU will implement the training course for City staff in stormwater pollution prevention.

Attachment A  
2010 Stream Monitoring - Reedy Creek Watershed

	Crooked Branch, CB1					Reedy Creek - 100 yds Downstream of Roanoke St., RC1					Reedy Creek - end of 44th St., RC3					Reedy Creek - 50 yds Downstream of German School Rd., RC4				
	2/20	3/20	4/17	5/15	6/19	2/20	3/20	4/17	5/15	6/19	2/20	3/20	4/17	5/15	6/19	2/20	3/20	4/17	5/15	6/19
Ammonia - N	<0.1	<0.1	0.5	0.1	<0.1	0.1	0.1	0.1	0.3	<0.1	0.1	0.1	0.3	0.3	0.3	0.1	0.1	0.4	0.8	0.3
Chlorophyll A	<5	<5	<5	<5		<5	<5	<5	<5	5	<5	<5	<5	<5	10	<5	<5	<5	<5	<5
DO	11.5	9.73	8.08	7	6.72	11.9	11.8	8.4	7.64	5.42	13.5	10.71	7.19	8.07	3.62	12.0	10.05	6.78	6.04	4.07
E. coli	20	194	147	1300	>2420	82	153	435	>2420	579	1200	166	1300	>2420	1733	248	172	199	>2420	102
Nitrate+Nitrite - N	0.9	1.4	1.9	1.5	2.2	0.7	0.8	0.8	<0.5	0.7	0.6	0.8	0.9	0.6	1.2	<0.5	<0.5	<0.5	0.5	<0.5
pH, su	6.3	6.47	6.81	6.86	6.94	6.75	7.32	7.24		6.83	6.5	6.99	6.81	7.14	6.78	6.25	6.85	6.71		6.85
Secchi depth, cm	114.8	87.3	>120	79.4	>120	102	>120		53	>120	109	>120	>120	62	>120	75	59	72	48.2	99
Water Temp, ° C	5.5	12.4	15	18.5	19.2	4.4	11.6	16.9	22.6	22.5	1.5	9.7	16.5	20.8	22.7	3.8	11.4	19.5	22.7	25.7
Total Phosphorus	<0.1	0.06	0.08	0.06	0.09	<0.1	0.03	0.06	0.1	0.04	<0.1	0.03	0.05	0.08	0.06	<0.1	0.05	0.07	0.09	0.1
TKN	<0.5	0.6	<0.5	0.6	<0.5	<0.5	0.6	<0.5	1.0	0.6	0.7	<0.5	0.7	1.2	0.9	<0.5	0.8	0.6	1.4	1.2
TSS			3	5	1			4	9	1			3	8	6			5	11	5

units = mg/L (except where noted)

E coli units - mpn/100 ml

Note: high E. coli results on 5/15/10 due to sewer pipe breakage upstream

## Attachment B - Illicit Discharges 2010

<b>Location</b>	<b>Date</b>		<b>Observation</b>
5326 Hull St. Rd.	9/10/2009		oily residue in ditch on construction site
Toledo Ave. storm drain	3/15/2010		oily sheen observed by homeowner
Reedy Creek - near 46th St.	3/19/2010		citizen report of petroleum odor in creek
Aqua-Clean of VA (RECO Industries)	5/20/2010		high LEL alarm in collection system

## Attachment B - Illicit Discharges 2010

<b>Action Taken</b>
samples taken - water to be pumped and disposed of as petroleum contaminated waste
samples collected, no petroleum detected
samples collected, no petroleum detected
ongoing investigation

**Attachment C  
City of Richmond  
BMP Inventory as of June 30 2010**

<b>ID #</b>	<b>Premise Address</b>	<b>Permit #</b>	<b>Map REF</b>	<b>BMP Type</b>	<b>HUC Code</b>	<b>Drainage Acres</b>	<b>Water Body</b>	<b>Owner</b>
1	8201 Ammonett Dr.	B06061403	C0030146005	3.11A	JM86	0.030	Rattlesnake Creek	Constance H. Dean
2	4524 Arrowhead Rd.	B00011405	C0020033006	3.10 B	JM86	0.007	James River	James L & Daphne A Toth
3	4682 Arrowhead Rd.	B00082404	C0020015018	3.10 B	JM86	0.007	James River	Rebecca W. Adams Trust
4	708 Bainbridge St.	B06063023	S0000057005	3.11 A	JM86	0.180	Shockoe Creek	WM Jordan Richmond LLC
5	2100 Bellemeade Rd.	B97121111	S0080276011	3.07	JL01	1.210	Goode Creek	KCC Holdings LLC
6	2120 Bellemeade Rd.	B96040905	S0080276016	3.10 A	JL01	21.000	Goode Creek	Hendricks Commerical Property LLC
7	301 Belt Blvd	P08020503	C0060154004	3.08	JL02	10.890	James River	Greater Richmond Transit Co.
8	23 B Boatwright Dr.	P09012104	W0210463001A	3.08 (pipe)	JM86	0.620	West Hampton	University of Richmond
9	1301 N Boulevard	P08012511	N0001396028	3.08	JL01	4.200	Shockoe Creek	Bow Tie Partners Boulevard Square LLC
10	2845 Broad Rock Blvd	B08072912	C0080427006	3.10 B	JL02	0.220	Grindall Creek	Edak LLC
11	6501 Buckhill Rd.	B07062615	C0040429022	3.11A	JM86	0.560	James River	Edward & Janice Gardner
12	2709 Calverton St.	B00101206	S0090420005	3.11A	JL02	0.015	Grindall Creek	Virginia Knight
13	8 1/2 W. Canal St.	C10041201	W0000101021	Raintnk	JM86	1.039	James River	GD Richmond LLC c/o Gilbane Development Co.
14	2101 E. Cary St	B06050112	E0000228009	3.11C	JL01	0.150	James River	FC Consolidated Lessor LLC, Forest City Residential Group
15	2600 E Cary St	B06041103	E0000442023	3.11C	JL01	0.120	James River	FC Lucky Strike Lessor LLC
16	2301 E Cary St	B98082513	E0000443002	3.10	JL01	0.500	James River	Forest City Enterprises
113	Cary & Main / 4th & 5th St Alley		W0000022001	3.10 D	JLO1	0.130	James River	City of Richmond
114	Cary & Main/ 12th & 13th St Alley		E0000082027	3.10 D	JL91	0.093	James River	City of Richmond
17	1320-1322 W Cary St.	B06090608	W0000443013	3.08	JM86	0.495	James River	Eck Enterprises Inc

**Attachment C**  
**City of Richmond**  
**BMP Inventory as of June 30 2010**

<b>ID #</b>	<b>Premise Address</b>	<b>Permit #</b>	<b>Map REF</b>	<b>Type of BMP</b>	<b>HUC Code</b>	<b>Drainage Acres</b>	<b>Water Body</b>	<b>Owner</b>
18	4004 Cary Street Rd	P08091704	W0001830010	3.08	JL18	0.900	James River	Malvern Manor Apartments LLC
19	2219 Chamberlayne Pkwy	P07070504	N0000532001	3.08	JL01	1.830	Shockoe Creek	City of Richmond - Department of General Services
20	8960 Cherokee Rd.	B94040106	C0010292032	3.10	JM84	0.550	James River	Ed & Robin Wong
21	9131 Cherokee Rd.	W06102301	C0010374044	3.11C	JM84	0.260	James River	Riverwatch Properties Owners Association
22	9734 Cherokee Rd.	B98021214	C0010285024	3.10 B	JM84	0.170	James River	Philip B. Peters
23	10620 Cherokee Rd.	B97012710	C0010434012	3.13	JM84	3.190	James River	Dr. & Mrs. W. Baxter Perkinson Jr.
24	10655 Cherokee Rd.	B08042417	C0010565030	3.07	JM84	0.027	James River	James and Catherine Chrichton
25	2929 Cofer Rd.	B97052210	C0090310020	3.13	JM86	0.107	Broad Rock Creek	Phillip Morris Inc. c/o Real Estate
26	1401 Commerce Rd	P09012720	S0070836002	3.13	JL01	6.100	Goodes Creek	City Central LLC
27	4300 Commerce Rd	P08013101	S0090396013	3.11C	JL01	0.160	Goodes Creek	Manisha and Kiran Patel Hambell LLC
28	4401 Croatan Rd.	B00050920	C0010403006	3.10B	JM84	0.016	Cherokee Creek	Dr. Shirley Wiley
29	4321 Custis Rd.	B07080903	C0040246016	3.13	JM86	0.037	Rattlesnake Creek	John Neuner IV & Corbin W
100	5842 Daytona St. ROW	pre-1999	C0070410004	3.06	JM86	0.36	Reedy Creek	City of Richmond
30	815 Decatur Street	P08082910	S0000080017	3.08	JL01	1.080	James River	City of Richmond - Real Estate Services
31	2106 Deepwater Terminal Rd.	B96111410	S0080211016	3.10A	JL01	0.430	Goodes Creek	Interstate Commerce Corp. <i>City of Richmond ?</i>
32	2212 Deepwater Terminal Rd.	pre-1999	S0080392008	3.08	JL01	0.460	Goodes Creek	Clean Acres Property LLC
33	5000 Deepwater Terminal Rd.	B98090306	S0090759006	3.10A	JL01	0.440	Goodes Creek	City of Richmond Port
34	4236 Echo Ho Lane	B94060805	C0010292040	3.10	JM84	1.100	James River	John d & Susan I Massey
35	200 Everett St.	B99070102	S0000176001	3.07	JM01	0.450	James River	Quarles Petroleum Inc.

**Attachment C  
City of Richmond  
BMP Inventory as of June 30 2010**

<b>ID #</b>	<b>Premise Address</b>	<b>Permit #</b>	<b>Map REF</b>	<b>Type of BMP</b>	<b>HUC Code</b>	<b>Drainage Acres</b>	<b>Water Body</b>	<b>Owner</b>
115	7045 Forest Hill Ave		C0040823073	3.11a	JM86	0.2	James River	Ukrops Supermarkets Inc
116	7101 Forest Hill Ave		C0040823030	3.06	JM86	2.66	James River	Chippenham North 9 LLC
117	7101 Forest Hill Ave		C0040823030	3.06	JM86	4.69	James River	Chippenham North 9 LLC
36	7846 Forest Hill Ave.	P06102712	C0030170046	3.08	JM86	0.600	James River	Howard W Worrell Jr c/o Direct Systems
37	1 Gateway Road	P09042910	W0230004001	3.08 (pipe)	JM86	1.040	West Hampton	University of Richmond
38	2612 Geneva Dr. 9CF	B97061307	C0080849003	3.06	JL02	4.600	Pocosham Creek	Kim & Joe Wright
39	2624 Geneva Dr.	B97052009	C0080849005				Pocosham Creek	Amanda Thomas
40	2630 Geneva Dr. 12CF	B97070202	C0080849006				Pocosham Creek	Pamela Price
41	6001 Grove Ave	P09070709	W0210381007	3.08 (pipe)	JL18	0.930	West End	Church Schools in the Diocese of Virginia Inc.
42	401 S Harrison St.	W06082501	W0000328030	3.11A	JM86	0.990	James River	John and Cheryl Saxman
43	301 Hillwood Rd	B07030509	W0220134006	3.10C	JM86	0.430	James River	Pui Fung Yuen
44	200 Hioaks Rd.	P07102903	C0050879016	3.08	JM86	4.200	Powwhite creek	Medical Facilities of America LLP
45	400 Hull St.	B97071617	S0000075017	3.10A	JL01	0.278	Shockoe Creek	Plant Zero Mgmt. Co. LLC c/o Richard Gregory Esq.
46	721 Hull St.	B07020808	S0000057024	3.11 A	JL01	0.300	Shockoe Creek	WM Jordan Richmond LLC
47	913 Hull Street	P08082911	S0000059016	3.08	JL01	0.250	Shockoe Creek	City of Richmond
48	5326 Hull Street Rd	W09012101	C0070176080	3.08	JL02	8.500	James River	Meadow Creek Apts. LLC
49	6300 Jahnke Rd.	B97050502	C0050500002	3.08	JM86	0.720	Powwhite Creek	City of Richmond School Board
50	6643 Jahnke Rd.	B08082210	C0050603018	3.08	JM86	0.190	Reedy Creek	Veritas Classical Christian
51	1517 Jefferson Davis Hwy.	B06060208	S0071326001	3.10B	JL01	0.068	James River	James River Apartments c/o VA Supportive Housing

**Attachment C  
City of Richmond  
BMP Inventory as of June 30 2010**

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52	2412 Lakeview Ave	B10021103	W0001069015	3.15	JM86	0.222	James River	Rudolph C. & Joyce R. McCollum Jr.
53	617 S Laurel St.	B09061914	W0000161047	3.10 B	JM86	0.180	James River	Oregon Hill Home Improvement Council Inc.
54	619 S Laurel St.	B09061913	W0000161034	3.10 B	JM86	0.180	James River	Oregon Hill Home Improvement
55	1810 Magnolia St.	B00103002	N0000720010	3.13	JM86	0.250	Shockoe Creek	Cellco Partnership
56	2001 Magnolia St.	B99110408	E0120031002	3.07	JL01	3.600	James River	Ed E. West Jr. et al Trust
57	1533 E Main St	B04082319	E0000090001	3.11C	JL01	0.300	James River	Richmond Metropolitan Authority
58	4500 E Main St.	B96121106	E0000990021	3.07	JL01	0.480	James River	Hilltop Associates LLC c/o William R. Hill III
59	5 Mary View Dr.	B97032005	W0220294005	3.10 A	JM86	7.300	James River	Barbara W. Howell Revocable Trust c/o Barbara W. Howell
60	7 Mary View Dr.	B97041601	W0220294004	3.10 A	JM86	0.720	James River	Peter & Kee Ro
61	5050 Midlothian Turnpike	B98101314	C0051045012	3.10 B	JM86	3.100	Reedy Creek	Fifty Fifty Midlothian LLC
62	5808 Midlothian Turnpike	B99041911	C0050895018	3.13	JM86	1.000	Reedy Creek	CDC Properties LLC
63	5909 Nestle Ave.	B00113005	C0080855006	3.10B	JL02	1.000	Pocosham Creek	Jose Castro & Maria Munoz
64	233 Norcroft Terrace	B96061129	S0053340001	3.07	JM86	0.600	Reedy Creek	Forest Hill Associates LP
65	300 Norcroft Circle	B96061122						
66	313 Norcroft Circle	B96061123						
67	329 Norcroft Circle	B96061121						
68	344 Norcroft Circle	B96061132						
69	345 Norcroft Circle	B96061119						
70	360 Norcroft Circle	B96061131						

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71	361 Norcroft Circle	B96061124	S0053340001	3.07	JM86	0.600	Reedy Creek	Forest Hill Associates LP
72	373 Norcroft Circle	B96061128						
73	376 Norcroft Circle	B96061118						
74	389 Norcroft Circle	B96061117						
75	3200 Norfolk Street	P08031208	N0001721001	Green Roof	JL01	0.190	Shockoe Creek	Mosely Scott's Addition LLC
76	7150 Old Jahnke Rd.	W06081001	C0050529080	3.07	JM86	6.950	Powwhite Creek	Boulder Parke Townhome Owners Association
77	200 Orleans St.	pre-1999	E0001310007	3.08	JL01	8.940	James River	K B T Partnership
105	4016 Pettus Rd.		C0080433035	3.06	JM86	0.44	Reedy Creek	Matthew Jacobs
78	1000 Porter St	P09120808	S0000042005	Cistern	JM86	0.101	James River	Urban Development Associates LLC
79	5619 Pride Rd.	B07040208	C0060723040	3.08	JM86	0.510	Reedy Creek	SRS Leasing c/o Michael W. Rice
80	1831 Rady Ct.	P09040206	N0000720001	3.08 (Pipe)	JL01	1.580	Shockoe Creek	Cellco Partnership
81	6347 Ridgeway Rd.	B98072714	W0210419001	3.11 A	JM86	0.200	West Hampton	John R. & Carter A. Bryan
82	8029 Riverside Dr.	B97122207	C0040124020	Green Roof	JM86	0.067	James River	Craig & Annhorner Truitt
83	300 W Roanoke St.	B98031211	S0002919006	3.10 B	JM86	0.300	Reedy Creek	Grace Institutional Baptis Church Trust
84	1701 Ruffin Rd.	pre-1999	S0080601012	3.08	JL01	0.410	James River	Barlow Properties LLC
85	2104 Sale St.	B07080314	E0000665045	3.11 A	JM86	0.060	Shockoe Creek	Glorious Praise Ministries
86	4301 Saratoga Rd.	B07011610	C0010363024	3.11 A	JM84	0.058	Cherokee Creek	Manville Juston
87	4311 Saratoga Rd.	B07011611	C0010363018	3.14	JM84	0.059	Cherokee Creek	Keith Eberle & Kristan Rosato
88	518 N 2nd St	C10021802	N000062018	3.08 (pipe)	JL01	0.560	James River	Hippodrome Taylor Mansion LLC

**Attachment C**  
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89	706 E 7th St.	B98031909	S0000386001	3.10 B	JL01	0.980	Shockoe Creek	JRD Properties, LLC
90	3925 Sherbrook Rd.	B00032214	C0020126028	3.10 B	JM86	0.007	Rattlesnake Creek	Steven A & Kathleen J Kelley
91	9200 Stonypoint Pkwy	C10011401	C0010757010	3.15A	JM85	1.480	James River	Stonypoint Fashion Park Assoc.
92	5720 Swanson Rd	B05120206	C0070174068	3.08	JL02	0.930	Reedy Creek	Southside Congregation of Jehovah's Witnesses Trust
93	6031 St. Andrews Lane	pre-1999	W0210469025	3.08	JM86	12.28	James River	Country Club of Virginia
94	118 Tempsford Lane	B01010911	W0220083045	3.10 A	JM86	0.107	James River	Cyrus Kump II
95	102 E. 10th St.	P08021904	S0000113014	3.08	JL01	0.400	James River	City of Richmond - Real Estate Services
96	16 S Tow Path Lane	B09010712	W0001323022	3.11 C	JM86	0.058	James River	Kenneth & Lydia Johnson
97	20 S Tow Path Lane	B00050413	W0001323024	3.10 A	JM86	0.588	James River	Philip W. Klaus Jr.
98	22 S Tow Path Lane	B99031004	W0001323025	3.10 A	JM86	0.070	James River	Lisa & William Smith
101	2101 Venable Street	P07012309	E0000373001	3.08	JL01	0.690	Shockoe Creek	Great Hope Baptist Church
102	301 Virginia St.	P06090521	E0000069001C	3.15A	JL01	0.530	James River	John Neuner IV & Corbin W
103	4715 Walmsley Blvd.	B98052613	C0080948016	3.13	JL01	0.600	Grindall Creek	LEX CVS LLC
104	3464 Warner Rd.	B97020401	C0040304008	3.13	JM86	0.060	James River	Paul J Sweifel & Linda Dougherty-Zweifel
106	4501 Warwick Rd.		C0080307020	3.06	JM86	0.036	Reedy Creek	Commonwealth of Virginia
107	4600 block Warwick Rd - ROW		ROW	3.06	JM86	0.27	Reedy Creek	City of Richmond
109	Warwick & Hopkins Rd. - ROW		ROW	3.06	JM86	0.16	Reedy Creek	City of Richmond
108	5170 Warwick Rd		C0060567033	3.06	JM86	0.41	Reedy Creek	Marilyn K Simon Family TR Company
110	33 A Westhampton Way	P09010902	W0230005006	3.08	JM86	0.210	West Hampton Lake	University of Richmond

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111	206 S Wilton Rd.	B06090107	W0220127006	3.10 B	JM86	0.650	James River	James T & Joelle B Clark
112	2511 Wise St.	B08050822	S0000689026	3.08	JL01	0.001	James River	Walter Sullivan

**Key:**

**HUC Code:**

JL01

JL02

JL18

JL19

JM84

JM85

JM86

**Description**

James River - Almond Creek

Falling Creek

Upham Brook

Chickahominy River -Powhite Creek

James River - East Branch Tuckahoe Creek

James River - Little Westham Creek

**BMP Type**

**Description:**

3.06

Retention Pond

3.07

Extended Detention Basin

3.08

Detention Basin

3.10 A

Infiltration Basin

3.10 B

Infiltration Trench

3.10 C

Roof Downspout system

3.10 D

Porous Pavement

3.11 A

Bioretention Filter

3.11 B

Green Alley

3.12

Sand Filter

3.13

Grassed Swale

3.15

Manufactured systems

	<b>New in 2010</b>
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**Attachment D - List of New BMP's for Jul 2009 - Jun 2010**

<b>Premise Address</b>	<b>Permit #</b>	<b>Map REF</b>	<b>Owner Name</b>	<b>Water Body</b>	<b>HUC Code</b>	<b>Type of BMP</b>	<b>Drainage Acres</b>
1000 Porter St	S0000042005	P09120808	Urban Development Assoc. LLC	James River	JM86	Cistern	0.101
2412 Lakeview Ave	W0001069015	B10021103	McCollum Rudolph C. Jr.	James River	H39	3.15	0.222
9200 Stonypoint Pkwy	C0010757010	C10011401	Stonypoint Fashion Pk Assoc	James River	JM85	3.15A	1.48
518 N 2nd St	N000062018	C10021802	Hippodrome Taylor Mansion LLC	James River	JL01	PIPE	0.56
8 1/2 W. Canal St.	W0000101021	C10041201	GD Richmond LLC	James River	JM86	Raintnk	1.039
617 S Laurel St.	W0000161047	B09061914	Oregon Hill Home Improvement	James River	JM86	Infiltration	0.18
619 S Laurel St.	W0000161034	B09061913	Oregon Hill Home Improvement	James River	JM86	Infiltration	0.18