5.0 Watershed Management Area Restoration Strategies

The Pohick Creek Watershed is divided into ten smaller watershed management areas (WMAs) based on terrain. Summaries of Pohick Creek's ten WMAs are listed in the following WMA sections, including field reconnaissance findings, existing and future land use, stream conditions and stormwater infrastructure. For Fairfax County planning and management purposes the WMAs have been further subdivided into smaller subwatersheds. These areas, typically 100 – 300 acres, were used as the basic units for modeling and other evaluations. Each WMA was examined at the subwatershed level in order to capture as much data as possible. The subwatershed conditions were reviewed and problem areas were highlighted. Projects were proposed in problematic subwatersheds. The full *Pohick Creek Draft Watershed Workbook*, which contains detailed watershed characterizations, can be found in the Technical Appendices.

Pohick Creek has four major named tributaries (see **Map 3-1.1** in Chapter 3). In the northern portions of the watershed two main tributaries converge into Pohick Creek stream. The Rabbit Branch tributary begins in the highly developed areas of George Mason University and Fairfax City, while Sideburn Branch tributary begins in the highly developed area southwest of George Mason University. The confluence of these two headwater tributaries forms the Pohick Creek main stem. The Middle Run tributary drains Huntsman Lake and moderately-developed residential areas. The South Run tributary drains Burke Lake and Lake Mercer, as well as the low-density southwestern portion of the watershed.

The restoration strategies proposed to be implemented within the next ten years (0 – 10-year plan) consist of 90 structural projects. Project descriptions for these 90 structural projects and non-structural projects are included in each WMA Section. Additionally fact sheets for the 0 – 10-year projects are provided at the end of section five. Additionally, detailed project fact sheets for the restoration projects proposed in this watershed management plan are distributed to the subwatersheds with poor conditions and/or greatest need, not necessarily evenly throughout the entire WMA. The Table 5-1 shows the number of structural (0 – 25-year projects) and non-structural projects proposed in each WMA.

Figure 5-1: Pohick Creek Watershed Management Areas

WMA:		Acres	10-Year Plan	25-Year Plan	Non-Structural
1.	Pohick - Lower	2,346.5	7	6	3
2.	Pohick - Lower South Run	1,947.7	3	1	2
3.	Pohick - Middle	3,014.6	12	17	7
4.	Pohick - Middle Run	2,540.2	7	5	6
5.	Pohick - Middle South Run	1,889.1	2	5	3
6.	Pohick - Potomac	1,532.4	0	0	0
7.	Pohick - Rabbit Branch	2,524.9	9	11	2
8.	Pohick - Sideburn Branch	2,307.9	24	5	9
9.	Pohick - Upper	3,104.7	19	9	4
10.	Pohick - Upper South Run	2,040.7	7	6	0
Totals		**23,248.7**	**90**	**65**	**36**

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5.1 Pohick – Lower Watershed Management Area

The Pohick - Lower WMA has a total area of approximately 3.67 square miles and is comprised of 18 subwatersheds. It is bound to the north by Pohick Road and to the east by Fort Belvoir and Pohick Bay. Richmond Highway and Lorton Road both bisect the WMA. The upstream boundary is the Laurel Hill redevelopment area west of Interstate 95.

The WMA has approximately 16.28 miles of stream that flow from north to south, until ultimately discharging into Pohick Bay. The area has diverse uses, including many institutional, commercial and industrial properties. Residential development consists of single-family detached and multi-family. The WMA is mostly undeveloped east of Richmond Highway, primarily consisting of public institutional lands. Land cover west of Richmond Highway consists primarily of impervious surfaces associated with dense residential development (i.e., rooftops, sidewalks and roadways. Notable features include Pohick Bay Regional Park, Norman M. Cole Jr. Pollution Control Plant, an Amtrak train station, and a Virginia Railway Express station.

The Lower WMA contains approximately 17 dry detention facilities that provide stormwater quantity control only. The most prevalent stream condition problems included disturbed stream buffers and stream channel widening, primarily in the mainstem of Pohick Creek upstream of Richmond Highway and immediately downstream of the Norman M. Cole Jr. Wastewater Treatment Plant. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.1.1 0-10 Year Structural Projects

PC9100 Stormwater Pond Retrofit

This project proposes the retrofit of an existing pond to create an extended detention dry pond with sediment forebays at the Lorton Athletic Fields near Richmond Highway in Lorton. Two forebays will be created around the inlet areas and the pond can be expanded on all sides, especially to the northeast. The pond's detention time will be increased by modifiying the existing discharge structure and increasing the pond's storage. The primary indicators are pollutants including phosphorus, nitrogen and total suspended solids. The pond collects runoff through a closed system from on-site fields and tennis courts, Richmond Highway, and from dense residential developments south of the site.

PC9101 Stormwater Pond Retrofit

This project proposes the retrofitting of an existing pond to create an extended detention dry pond with a sediment forebay at 9409 Lorton Market St. (Lorton Marketplace Shopping Center). The primary indicators are pollutants including nitrogen, phosphorus and total suspended solids. The existing discharge structure will be modified to increase the amount of time water is detained in the pond. The existing concrete pilot channels will be removed to promote infiltration of low flows which can have high concentrations of pollutants.

PC9102 Stormwater Pond Retrofit

This project proposes the retrofit of an existing dry pond to create an extended detention basin with a sediment forebay at the Norman M. Cole Jr. Wastewater Treatment Plant. The retrofit will increase the detention time of stormwater runoff and will improve stormwater quality. The existing dry pond is located in the parking lot of the plant. The indicators were pollutants, including nitrogen, phosphorus and total suspended solids.

PC9103 Stormwater Pond Retrofit

This project proposes the retrofit of an existing pond to create an extended detention dry pond with sediment forebays at Gunston Plaza Shopping Center, northwest of Richmond Highway. The pond receives runoff from the shopping center and outfalls across Richmond Highway into a wooded area. The indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The sediment forebays will provide pretreatment of stormwater runoff.

PC9104 Stormwater Pond Retrofit

This project proposes the retrofit of an existing pond to create an extended detention dry pond with sediment forebays at Gunston Plaza Shopping Center south of Lorton Road and northwest of Richmond Highway. The pond receives runoff from the shopping center and Lorton Road. The indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection. This will allow for better function of temporary ponding using a control structure, which enables particulate pollutants to settle out before entering the system.

PC9105 Stormwater Pond Retrofit

This project proposes the retrofit of an existing dry pond northwest of Lorton Station Boulevard to create an extended detention dry pond with a sediment forebay. The pond's existing discharge structure will be modified to increase the pond's detention time, and the pond's size will be enlarged to handle the longer detention time. Primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The pond collects runoff from dense residential development and highly impervious commerical areas. The pond outfalls to the north and is conveyed in a concrete swale under a railroad track before discharging into a wooded area. A large majority of the drainage area is impervious.

PC9701 Outfall Improvement

This project proposes the reconstruction of an outfall west of Milford Haven Drive to remove the concrete channel and replace it with a naturalized stream with an energy dissipation device. Currently, the concrete channel conveys runoff from pond 1158DP. This pond has a proposed stormwater pond retrofit project PC9105. This area consists of mostly open wooded area, highway and railroad tracks.

5.1.2 11-25 Year Structural Projects

PC9500 BMP/LID

This project proposes replacement of existing pavement in parking stalls with pervious pavement or pavers at Lorton Athletic Field. If necessary, additional underground detention may be provided. The indicator is the total impervious area. Pervious pavement will treat and/or reducing parking lot runoff using semi-porous material that will promote infiltration and will trap pollutants in the soil. Will also allow for surface storage, thereby reducing runoff volumes.

PC9501 BMP/LID

This project proposes the creation of a bioretention landscaping feature to receive runoff from impervious areas at Norman M. Cole Jr. Wastewater Treatment Plant off Richmond Highway. The indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The bioretention will capture sheet flow from impervious area and create an ideal environment for filtration, biological uptake and microbial activity, providing moderate to high pollutant removal, and reduce runoff rates.

PC9503 BMP/LID

Bioretention area proposed at Lorton Station Elementary School north of Lewis Chapel Road. Indicators are pollutants including nitrogen, phosphorus and total suspended solids. Bioretention will capture sheet flow from impervious areas and create an ideal environment for filtration, biological update and microbial activity, providing moderate to high pollutant removal. It will also reduce the outflow to the storm system. The location selected is a low spot of the edge of large recreation field. Consideration would need to be given to minimize disturbance.

PC9505 BMP/LID

This project proposes the replacement of existing pavement in parking stalls with pervious pavement or pavers at the Lorton Station Center School. The primary indicator is total impervious cover. Additional underground detention may be provided as site condition require. Pervious pavement will treat and reduce parking lot runoff using a semi-porous material that allows runoff to infiltrate then trap pollutants in the soil. It will also allow for surface storage and reduced runoff.

PC9700 Outfall Improvement

This project proposes construction of a new storage and treatment area below the outfall at the Lorton Station Elementary School. The improvement will include an energy dissipation device and wetland plantings. The indicators were instream sediment and condition of the wetland habitat. Outfall storage will reduce erosive velocities and sediment loads at the outfalls, improving downstream habitats.

5.1.3 Non-Structural Projects

PC9504 BMP/LID

This project proposes the collection of runoff from downspouts in rain barrels or roof drains in underground cisterns for reuse in irrigation at the Lorton Station Elementary School, north of Lewis Chapel Road. The primary indicator is the total impervious area. The rain barrel program will capture, store and reuse rooftop runoff from downspouts. The rain barrels can be used by students as a hands-on educational program.

PC9800 Street-Sweeping Program

This project proposes a street-sweeping program west of Lorton Marketplace Shopping Center to help reduce the amount of potential pollutants from entering the nearby streams and storm systems. The area is approximately 10 acres and is comprised of dense residential development. There is no existing stormwater quality treatment.

PC9801 Street-Sweeping Program

This project proposes a street-sweeping program in the Lorton Station development west of Lorton Station Boulevard to help reduce the amount of potential pollutants from entering the nearby streams and storm systems. The area is approximately 25 acres and is comprised of dense residential development. There is no existing stormwater quality treatment.

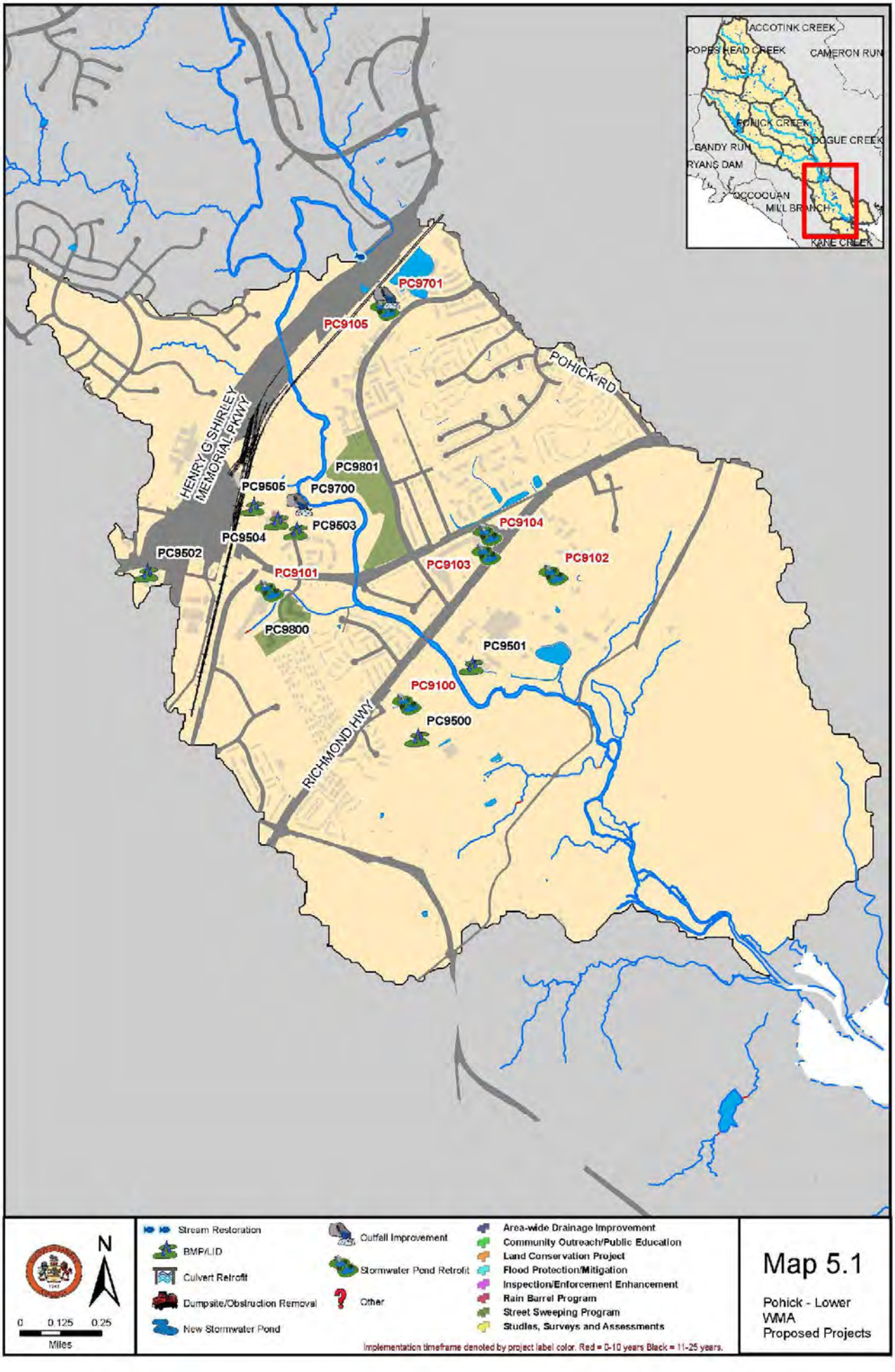
Table 5-1: Project List - WMA (Pohick - Lower Pohick)

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9100	Stormwater Pond Retrofit	PC-PC-0007	9515 Richmond Hwy., Lorton Athletic Fields	Water quality and quantity control	Public/Local - Fairfax County	0-10
PC9101	Stormwater Pond Retrofit	PC-PC-0012	9409 Lorton Market St., Lorton Marketplace Shopping Center	Water quality and quantity control	Private - Commercial	0-10
PC9102	Stormwater Pond Retrofit	PC-PC-0009	9399 Richmond Hwy., Norman M. Cole WWTP	Water quality and quantity control	Public/Local - Fairfax County	0-10
PC9104	Stormwater Pond Retrofit	PC-PC-0009	7665 Lorton Rd., Gunston Shopping Plaza	Water quality and quantity control	Private - Commercial	0-10
PC9105	Stormwater Pond Retrofit	PC-PC-0019	Behind 7747 Milford Haven Ct.	Water quality and quantity control	Private - HOA	0-10
PC9701	Outfall Improvement	PC-PC-0019	7747 Milford Haven Ct.	Water quality control	Private - HOA	0-10
PC9103	Stormwater Pond Retrofit	PC-PC-0009	7665 Lorton Rd., Gunston Shopping Plaza	Water quality and quantity control	Private - Commercial	0-10
PC9500	BMP/LID	PC-PC-0007	9515 Richmond Hwy., Lorton Athletic Fields	Water quality and quantity control	Public/Local - FCPS	11-25
PC9501	BMP/LID	PC-PC-0007	9399 Richmond Hwy., Norman M. Cole WWTP	Water quality and quantity control	Public/Local - FCPS	11-25
PC9502	BMP/LID	PC-PC-0012	8101 Lorton Rd., Lorton Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9503	BMP/LID	PC-PC-0013	9290 Lewis Chapel Rd., Lorton Station Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9505	BMP/LID	PC-PC-0013	9290 Lewis Chapel Rd., Lorton Station Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9700	Outfall Improvement	PC-PC-0013	9298 Lewis Chapel Rd., Lorton Station Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
PC9504	BMP/LID	PC-PC-0012	9290 Lewis Chapel Rd., Lorton Station Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9800	Street Sweeping Program	PC-PC-0012	Timarand Dr. and Inverary Ct.	Water quality control	Private - HOA
PC9801	Street Sweeping Program	PC-PC-0013	Lorton Station Blvd. & Stone Garden Dr.	Water quality control	Private - HOA

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.


ACCOTINK CREEK
POPES HEAD CREEK
CAMERON RUN
POHICK CREEK
DOGUE CREEK
SANDY RUN
RYANS DAM
OCCOQUAN
MILL BRANCH
KANE CREEK
PC9701
PC9105
POHICK RD
HENRY G SHIRLEY MEMORIAL PKWY
PC9801
PC9505
PC9700
PC9503
PC9504
PC9502
PC9104
PC9102
PC9103
PC9101
PC9800
PC9501
PC9100
PC9500
RICHMOND HWY
N
0 0.125 0.25
Miles
Stream Restoration
BMP/LID
Culvert Retrofit
Dumpsite/Obstruction Removal
New Stormwater Pond
Outfall Improvement
Stormwater Pond Retrofit
Other
Area-wide Drainage Improvement
Community Outreach/Public Education
Land Conservation Project
Flood Protection/Mitigation
Inspection/Enforcement Enhancement
Rain Barrel Program
Street Sweeping Program
Studies, Surveys and Assessments
Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.
Map 5.1
Pohick - Lower WMA
Proposed Projects

5.2 Pohick – Lower South Run Watershed Management Area

Lower South Run Watershed Management Area has a total area of approximately 3.04 square miles and is comprised of 12 subwatersheds. It is located in the southern portion of the Pohick Creek watershed. It is bound to the north by Pohick Road/Fairfax County Parkway. The south is bound by Silverbrook Road and to the east by Pohick Road.

The WMA has approximately 23.81 miles of stream, which flow from west to southeast. The area consists mainly of single-family attached and detached residential homes. Land cover is primarily impervious surface associated with residential development (i.e., rooftops, sidewalks and roadways) and landscaping, including managed turf. The area is approximately 16.18 percent impervious. Notable features of the WMA are Newington Forest Elementary School and a large Virginia Power/Plantation pipeline easement.

In the Lower South Run WMA the most prevalent stream condition problems noted include disturbed stream buffers and stream channel erosion and/or widening. It should be noted, however, that with the Lower South Run WMA's wider stream valleys, the main stem of South Run and some of its tributaries have avoided the extreme widening and erosion/incision conditions plaguing other portions of the watershed. Channel widening and incision conditions are noted in the headwaters of the South Run main stem and Rocky Branch, a tributary, but the downstream main stem of South Run appears more stable. Stormwater pipe discharge into the WMA's streams have a demonstrated impact as well, as these pipes discharge runoff directly into the streams in many instances, contributing to the upstream widening and erosive conditions. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.2.1 0-10 Year Structural Projects

PC9106 Stormwater Pond Retrofit

This wet pond retrofit is planned near South County Secondary School. The pond is set back from the main road. This project proposes creating a wetland system with the construction of a sediment forebay and the addition of bench planting. The primary indicators are wetland habitat and pollutants, including nitrogen, phosphorus and total suspended solids.

PC9202 Stream Restoration Suite

Subproject A is a stream restoration that will repair bank and bed erosion in the stream west of Spring Creek Court and southeast of Willowdale Court. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment. Subproject B is a buffer repair near the downstream end of the stream restoration. This buffer will provide additonal treatment for runoff from the adjacent townhouses. The indicators are stream bank buffer deficiencies in headwater riparian habitat.

PC9204 Stream Restoration

This project proposes daylighting a pipe from Rising Creek Court farther upstream with an energy dissipation device and construction of an open channel. The energy dissipation device consists of a series of step pools reinforced with either rocks or logs. The daylighting will help reduce the velocity of the water entering the stream. The primary problem indicator is poor channel morphology.

5.2.2 11-25 Year Structural Projects

PC9506 BMP/LID Suite

This project proposes the installation of a bioswale at Newington Heights Park. The bioswale will receive runoff from tennis courts and basketball courts. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The bioswale will capture sheet flow from impervious areas and create an ideal environment for filtration, biological uptake and microbial activity. It will also reduce runoff volume and promote groundwater recharge. The location is ideal because it is already a functioning swale.

PC9508 BMP/LID Suite

This suite of projects proposes the creation of a bioretention landscaping features at Newington Forest Elementary School. The location is ideal because it will receive runoff from large impervious areas. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The bioretention will capture sheet flow and create an ideal environment for filtration, biological uptake and microbial activity. It will also reduce the outflow to the storm sewer system and recharge groundwater.

5.2.3 Non-Structural Projects

PC9509 BMP/LID

The project proposes a rain barrel/cistern at Newington Forest Elementary School southeast of Newington Forest Avenue. This will capture, store and reuse runoff from the rooftop. This project was proposed due to the large amount of high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9802 Dumpsite/Obstruction Removal Suite

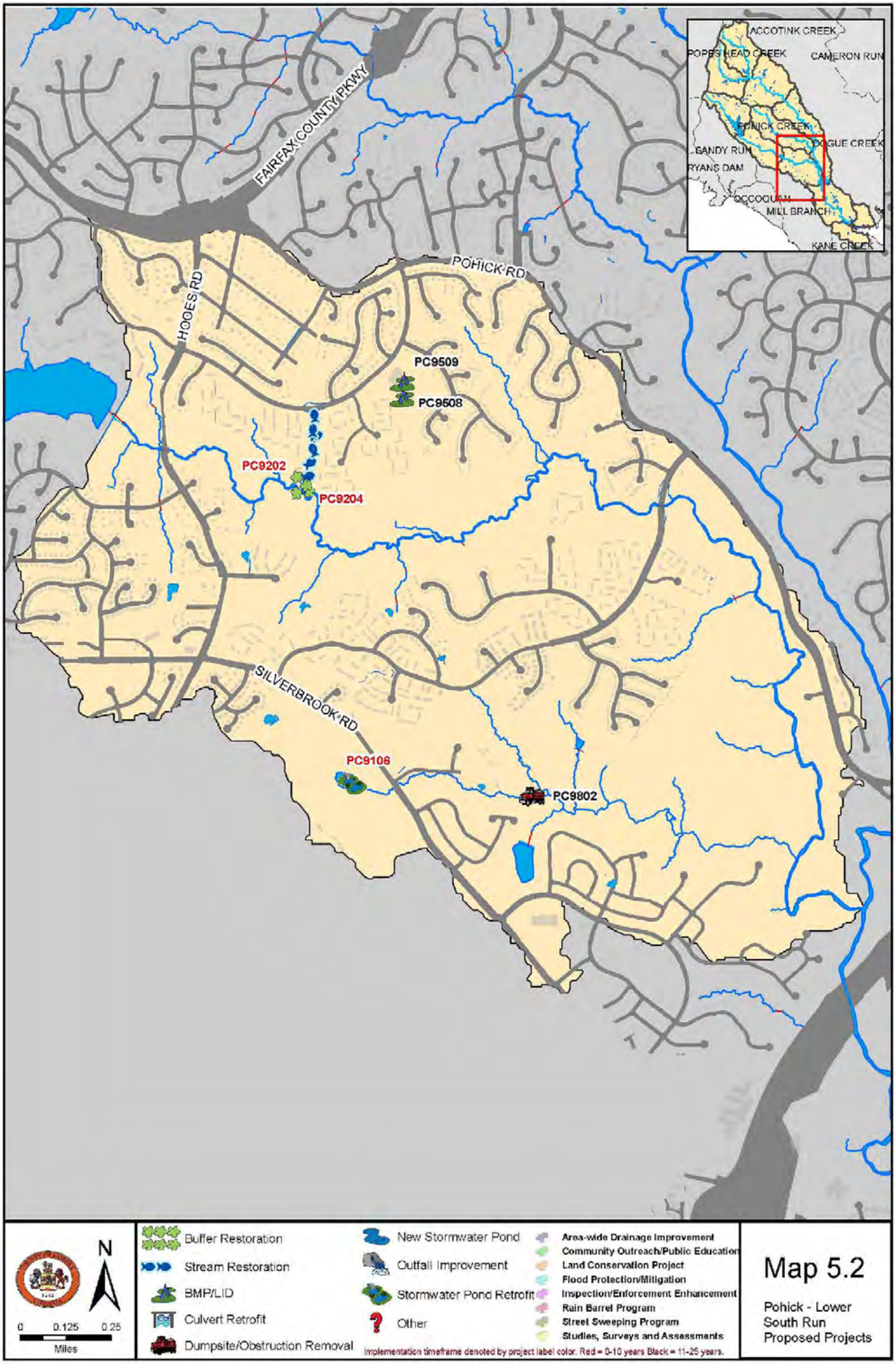
This suite of projects involves the removal of two dumpsites from a stream north of Sego Lily Court. The indicators are flood complaints and field verification. These dumpsite removals will help restore the functions of the stream and alleviate flooding issues.

Table 5-2: Project List - WMA (Pohick - Lower South Run)

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9106	Stormwater Pond Retrofit	PC-SL-0002	8501 Silverbrook Rd., South County Secondary School	Water quality and quantity control	Public/Local - FCPA	0-10
PC9202	Stream Restoration Suite	PC-SR-0007	Behind 8181 Willowdale Ct., South Run Stream Valley Park	Water quality control	Private - Residential, Public/Local - FCPA, Private - HOA	0-10
PC9204	Stream Restoration	PC-SR-0007	Next to 8661 Rising Creek Ct.	Water quality and quantity control	Private - HOA	0-10
PC9508	BMP/LID Suite	PC-SR-0005	8001 Newington Forest Ave., Newington Forest Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
PC9509	BMP/LID	PC-SR-0004	8001 Newington Forest Ave., Newington Forest Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9802	Dumpsite/ Obstruction Removal Suite	PC-SL-0001	Behind 8412 Sego Lilly Ct.	Water quality control	Public/Local - FCPA, Private - HOA

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.


ACCOTINK CREEK
POPES HEAD CREEK
CAMERON RUN
POHICK CREEK
DOGUE CREEK
SANDY RUN
RYANS DAM
OCCOQUAN
MILL BRANCH
KANE CREEK
FAIRFAX COUNTY PKWY
POHICK RD
HOOES RD
SILVERBROOK RD
PC9509
PC9508
PC9202
PC9204
PC9106
PC9802
N
0 0.125 0.25
Miles
Buffer Restoration
Stream Restoration
BMP/LID
Culvert Retrofit
Dumpsite/Obstruction Removal
New Stormwater Pond
Outfall Improvement
Stormwater Pond Retrofit
Other
Area-wide Drainage Improvement
Community Outreach/Public Education
Land Conservation Project
Flood Protection/Mitigation
Inspection/Enforcement Enhancement
Rain Barrel Program
Street Sweeping Program
Studies, Surveys and Assessments
Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.
Map 5.2
Pohick - Lower South Run Proposed Projects

5.3 Pohick – Middle Watershed Management Area

Middle Pohick Watershed Management Area has a total area of approximately 4.71 square miles and is comprised of 19 subwatersheds. It is bound on the west by portions of Sydenstricker Road and Pohick Road and on the south by Interstate 95. A portion of the eastern boundary is Rolling Road. It is bisected on the upstream end by Old Keene Mill Road and in the center by Fairfax County Parkway.

The WMA has approximately 29.84 miles of stream which flow from north to south. The area consists mainly of single-family attached and detached residences. Land cover is primarily associated with residential development such as, rooftops, sidewalks, roadways and landscaping including managed turf. The area is approximately 26 percent impervious. Notable features include West Springfield High School and several elementary schools.

In the Middle WMA the most prevalent stream condition problems noted include disturbed stream buffers and stream channel widening and erosion/incision. In addition, pipe and ditch discharge into the WMA's streams have a significant impact on this WMA, including some severe impacts on the WMA headwaters and the main stem of Pohick Creek. These pipes and ditches discharge stormwater runoff directly into the streams in many instances, contributing to the observed widening and erosion conditions. The more severe pipe, ditch, obstruction and crossing impacts appear upstream of the Fairfax County Parkway. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.3.1 0-10 Year Structural Projects

PC9107 Stormwater Pond Retrofit

A dry pond at Saratoga Elementary School receives runoff from a school parking lot and driveway. This project proposes the retrofit of an existing pond to create an extended detention dry pond with sediment forebay. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The sediment forebays will provide pretreatment of stormwater runoff.

PC9122 Stormwater Pond Retrofit

This project proposes the retrofit of an existing pond north of Old Keene Mill Road and east of Field Master Drive, which receives runoff from adjacent roads and neighborhoods. The existing dry pond will be retrofitted to create an extended detention dry pond with a sediment forebay. The pond receives runoff from a large drainage area consisting of dense residential development, roadways and wooded areas. The pond outfalls to the adjacent stream in the wooded area to the east.

PC9201 Stream Restoration

This stream restoration is located west of Matisse Way and east of Godolphin Drive, and is located on Fairfax County Park Authority land. This project proposes repairing bank and bed erosion, restoring channel morphology and reducing excessibe channel meander. Stream stabilization will reduce sediment loads to the stream while maintaining capacity of the channel and controlling unwanted meander.

PC9203 Stream Restoration

The project area is the stream southwest of Lake Pleasant Drive, north of Kings Point Court. This project proposes repairing bank and bed erosion to restore channel morphology. The primary indicator is poor channel morphology. Stream stabilization will help to reduce sediment loads to the stream channel and control unwanted meander.

PC9205 Stream Restoration

A closed system collects runoff from Kings Point Court and one other cul-de-sac. The system outfalls into a stream to the northwest. This project proposes daylighting the outfall pipe farther upstream. The primary problem indicator is poor channel morphology. This project returns the water to its natural state before entering the stream, allowing more time for the water to infiltrate and the flow velocities to decrease.

PC9206 Stream Restoration

This project proposes restoring stream just northeast of Lake Pleasant drive. The current stream has bank and bed erosion and poor channel morphology. The stream stabilization will reduce sediment loads to the stream while maintaining capacity and controlling unwanted meander. This stream segment is steep and receives runoff from townhomes and a roadway outfall. Erosion will be stabilized through the use of bank shaping, toe of slope protection, erosion control fabric, and rapid native vegetation establishment.

PC9211 Stream Restoration

Subproject A is proposed to daylight a pipe that collects runoff at the end of Middlewood Place and pipes it south into a stream. The primary indicator is channel morphology. The pipe leading into the stream is very steep, the outflow is at potentially erosive velocities. Subproject B is proposed to re-plant upland buffer area and provide reforestation. The existing stream buffer is deficient. This project will increase vegetation for filtration of pollutants and will reduce runoff by intercepting the water and increasing surface storage and infiltration.

PC9222 Stream Restoration

This stream flows northeast towards Old Keene Mill Road. The stream collects runoff from several adjacent neighborhoods. This project proposes repairing bank and bed erosion to restore channel morphology. Stream stabilization will reduce sediment loads to the stream while maintaining capacity and controlling unwanted meander. The primary indicator is poor channel morphology. The stream is located on Fairfax County Park Authority land.

PC9225 Stream Restoration

The stream is located southwest of Huntsman Boulevard. It receives runoff from adjacent neighborhoods. This project is proposed to repair bank and bed erosion to restore channel morphology. The primary indicator is poor channel morphology. The stream conveys runoff from dense residential development. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics, and rapid native vegetation establishment.

PC9226 Stream Restoration

The stream is located northeast of Hillside Road. Stream receives stormwater runoff as sheet flow from adjacent neighborhoods and three closed systems from the Red Fox Estates neighborhood. Stream restoration is proposed to repair bank and bed erosion to restore channel morphology. Primary indicator is poor channel morphology. The stream stabilization will reduce sediment loads while maintaining capacity of the stream and controlling unwanted meander.

PC9229 Stream Restoration

This Suite of project proposes restoration projects along the stream northeast of Hillside Road. Subproject A will be along the main stream, subproject B is a riparian buffer restoration, and subproject C is a daylighting of a storm pipe that outfalls to this stream. The primary indicator is poor channel morphology. The Stream receives runoff from sheet flow and closed systems from adjacent residential neighborhoods. These projects will reduce sediment loads to the stream while maintaining capacity and controlling unwanted meander.

5.3.2 11-25 Year Structural Projects

PC9111 Stormwater Pond Retrofit

Dry pond receives runoff from Ridge Creek Way (south) and Deer Creek Place (east) and adjacent neighborhoods. This project proposes the retrofit of an existing pond to create an extended detention dry pond with a sediment forebay. The primary indicators are nitrogen, phosphorus and total suspended solids. The retrofit will provide adequate downstream channel protection and allow for better function of temporary ponding using a control structure, which promotes settlement. Minimal room for expansion without disturbing paved paths within wooded area.

PC9113 Stormwater Pond Retrofit

Dry pond located north of Ridge Road, Quincy Hall Court and Shepherd Ridge Court. Runoff from those streets is conveyed in a closed system and outfalls into existing pond. This project proposes the retrofit of pond to create an extended detention dry pond with a sediment forebay. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of temporary ponding using a control structure, which promotes settlement of particulate. Room for expansion.

PC9115 Stormwater Pond Retrofit

Dry pond west of Bethelen Woods Lane receives runoff indirectly from adjacent neighborhood by means of a stream. This project proposes to retrofit the existing dry pond to create an extended detention dry pond with sediment forebay. The primary indicators are pollutants including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of temporary ponding using a control structure, promoting particulate settlement. This is an ideal location because there is space for expansion.

PC9116 Stormwater Pond Retrofit

Existing dry pond south of Walnut Knoll Drive and west of Bethelen Woods Lane. Current pond is well vegetated. This project proposed to retrofit and create and extended detention dry pond with sediment forebay. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of temporary ponding using a

control structure, which enables particulate pollutants to settle out. Area is steep which could limit the expansion of the pond area.

PC9117 Stormwater Pond Retrofit

Dry pond at a commuter parking lot east of Gambrill Road and south of Fairfax County Parkway. Project proposes the retrofit of pond to create an extended detention dry pond with a sediment forebay. Primary indicators are pollutants including phosphorus, nitrogen and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of temporary ponding using a control structure, which will promote settlement. Pond receives runoff from Hoose Road and Gambrill Road, which enters pond before outfalling in stream to east.

PC9119 Stormwater Pond Retrofit

Dry pond northeast of Hadlow Drive and northwest of Hadlow Court. This project proposes the retrofit of an existing pond to create an extended detention dry pond with a sediment forebay. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of temporary ponding using a control structure. This will promote particulate settlement. This pond receives runoff from adjacent neighborhoods and outfalls into a stream.

PC9200 Stream Restoration

Stream northwest of Henry G. Shirley Memorial Highway has indicators of poor channel morphology. This project proposes repairing bank and bed erosion thereby restoring the morphology. Stream stabilization will reduce sediment loads to the stream while maintaining capacity of the stream channel and controlling unwanted meander.

PC9209 Stream Restoration

Stream southwest of Richfield Road and southeast of Ships Curve Lane. This project proposes repairing the bank and bed by restoring channel morphology. This primary indicator is poor channel morphology. The stream stabilization will reduce sediment loads to the stream while maintaining capacity of the stream channel and controlling unwanted meander.

PC9213 Stream Restoration

An inlet collects runoff at the end of Ridgebrook Drive and a pipe conveys the runoff to a stream to the northeast. The primary indicator is poor channel morphology. This project proposes to daylight the pipe farther upstream to return the water to its natural state and reduce runoff rates, thereby minimizing erosion.

PC9216 Stream Restoration

Stream northeast of Whitlers Creek Court. Receives runoff from road and adjacent neighborhoods. This project proposes to repair bank and bed erosion to restore channel morphology. Primary indicator is poor channel morphology. Stream stabilization will reduce sediment loads to the stream while maintaining capacity and controlling unwanted meander.

PC9217 Stream Restoration

Inlet collects runoff from the west end of Whitlers Creek Court. The pipe outfalls directly into a stream to the west. This project proposes daylighting the outfall pipe farther upstream to return the water to its natural state. This will reduce runoff rates and minimize erosion.

PC9218 Stream Restoration

Closed system collects runoff from portions of Olde Lantern Way and Ridge Crossing Lane. The runoff is conveyed through a pipe and outfalls into a stream to the east. The primary indicator is poor channel morphology. This project proposes daylighting a pipe farther upstream, providing outfall protection with an energy dissipation device and constructing an open channel. This will return the water to its natural state and reduce runoff rates, thereby minimizing erosion to the stream.

PC9513 BMP/LID

This project proposes the installation of a bioswale at Hunt Valley Elementary School west of Sydenstricker Road. Check dams may be used to reduce velocity. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The bioswale is proposed on the side of a slope in a large athletic field behind the school. The bioswale will create an ideal environment for filtration, biological uptake and microbial activity. It will reduce runoff and promote groundwater recharge.

PC9519 BMP/LID

This suite of projects involves the creation of a bioretention landscaping features to receive runoff from impervious areas at Rolling Valley Elementary School, south of Rolling Road. Runoff will sheet flow to the area of proposed bioretention. Primary indicators are pollutants, including phosphorus, nitrogen and total suspended solids. This will create an ideal environment for filtration, biological uptake and microbial activity. Area should have minimal disturbance.

PC9521 BMP/LID

This project proposes the replacement of existing pavement in parking stalls with pervious pavement or pavers at Rolling Valley Elementary School, east of Barnack Drive. The primary indicator is total impervious area. The pervious pavement will treat and reduce parking lot runoff by using a semi-porous material that allows runoff to infiltrate. Pollutants will be trapped in soil. Additional underground detention may be provided as site conditions permit.

PC9522 BMP/LID

This project proposes the replacement of existing pavement in parking stalls with pervious pavement or pavers at Orange Hunt Pool, south of Bridle Wood Drive. The primary indicator is total impervious area. The pervious pavement will treat and reduce parking lot runoff by using a semi-porous material that allows runoff to infiltrate. Pollutants will be trapped in soil. Additional underground detention may be provided as site conditions permit.

PC9529 BMP/LID

This project proposes the creation of bioretention landscaping features to receive runoff from impervious areas at West Springfield High School, west of Rolling Road. Area will receive runoff from athletic fields. Primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. This area will create an ideal environment for filtration, biological uptake

and microbial activity. This will treat the impervious runoff before entering the storm drain system. It will also reduce runoff rates. Not a very ideal area because will not receive much runoff from impervious areas.

PC9532 BMP/LID

This project proposes the creation of bioretention landscaping features to receive runoff from impervious areas at West Springfield High School, west of Rolling Road. Area will receive runoff from large portions of parking lot and buildings. Primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. This area will create an ideal environment for filtration, biological uptake and microbial activity. This will treat the impervious runoff before entering the storm drain system. It will also reduce runoff rates.

5.3.3 Non-Structural Projects

PC9507 BMP/LID

The project is proposed to install a rain barrel/cistern at Saratoga Elementary School, east of Northumberland Road. This system will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9514 BMP/LID

This project is proposed to install a rain barrel/cistern at Hunt Valley Elementary School. This system will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9516 BMP/LID

This project is proposed to install a rain barrel/cistern at Orange Hunt Elementary School. This system will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9520 BMP/LID

This project is proposed to install a rain barrel/cistern at Rolling Valley Elementary School. This system will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwatersystem. The rain barrels can be used by students for hands-on educational programs.PC9804 Dumpsite/Obstruction Removal

There is a steam obstruction southeast of Ships Curve Lane. Primary indicators are flood complaints. The obstruction has been field verified as concrete and debris. This project is proposed to remove the obstructions blocking the stream channel in order to restore natural conditions and the function of the stream.

PC9813 Buffer Restoration

The stream northwest of Beatrice Court had indications of stream bank buffer deficiency in headwater riparian habitat. Runoff comes from adjacent neighborhoods both by sheet flow and through a closed system. This project is proposed to re-plant the stream buffer to re-establish the RPA. Increased vegetation from buffer repair will provide additional stream buffer for

filtration of pollutants and will reduce runoff by intercepting the water, thereby increasing surface storage and infiltration.

Table 5-3: Project List - WMA (Pohick – Middle Pohick)

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9107	Stormwater Pond Retrofit	PC-PC-0021	8111 Northumberland Rd., Saratoga Elementary School	Water quality and quantity control	Public/Local - FCPS, FCPA	0-10
PC9122	Stormwater Pond Retrofit	PC-PC-0034	Between Field Master Dr. & Huntsman Blvd.	Water quality and quantity control	Private - HOA	0-10
PC9201	Stream Restoration	PC-PC-0021	Behind 7756 Matisse Way	Water quality control	Public/Local - FCPA	0-10
PC9203	Stream Restoration	PC-PC-0023	8100 Lake Pleasant Dr.	Water quality control	Public/Local - FCPA	0-10
PC9205	Stream Restoration	PC-PC-0023	Behind 8106 Kings Point Ct.	Water quality and quantity control	Public/Local - FCPA	0-10
PC9206	Stream Restoration	PC-PC-0023	Next to 8021 Lake Pleasant Dr.	Water quality control	Private - HOA	0-10
PC9211	Stream Restoration Suite	PC-PC-0025	Near 8000 Middlewood Pl.	Water quality and quantity control	Public/Local - FCPA	0-10
PC9222	Stream Restoration	PC-PC-0033	Behind 8817 Bridle Wood Dr.	Water quality control	Public/State - VDOT, Public/Local - FCPA, Private - Residential	0-10
PC9225	Stream Restoration	PC-PC-0036	Next to 6297 Kerrydale Dr.	Water quality control	Private - HOA	0-10
PC9226	Stream Restoration	PC-PC-0035	Behind 6321 Hillside Rd.	Water quality control	Private - Residential, Private - HOA	0-10
PC9229	Stream Restoration Suite	PC-PC-0037	Behind 8901 Winding Hollow Way	Water quality control	Private - Residential	0-10
PC9529	BMP/LID	PC-PC-0035	6100 Rolling Rd., West Springfield High School	Water quality and quantity control	Public/Local - FCPS	11-25

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

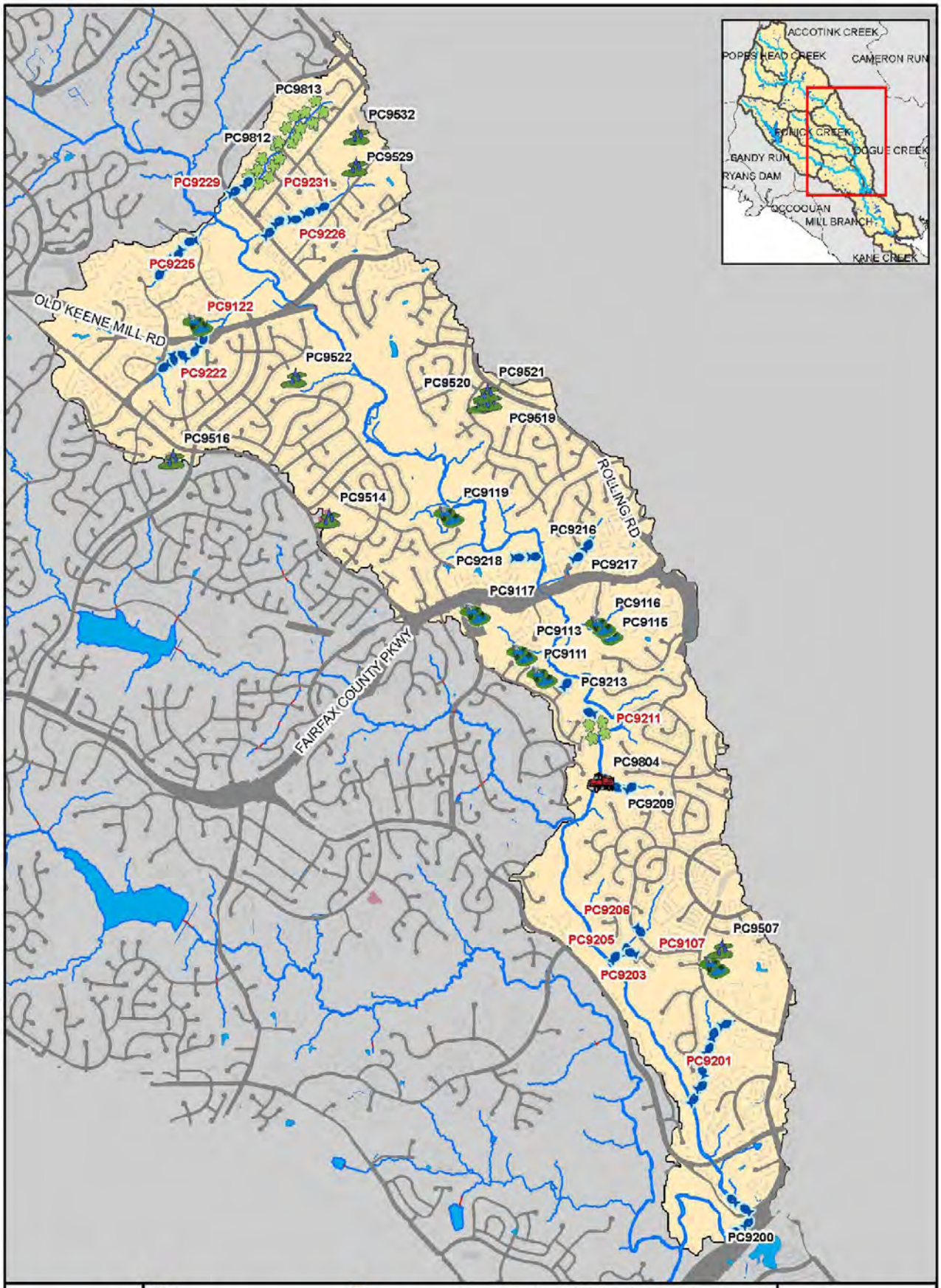
Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9111	Stormwater Pond Retrofit	PC-PC-0026	8110 Deer Creek Pl.	Water quality and quantity control	Private - HOA	11-25
PC9113	Stormwater Pond Retrofit	PC-PC-0026	Behind 7439 Quincy Hall Ct.	Water quality and quantity control	Private - HOA, Private - Residential	11-25
PC9115	Stormwater Pond Retrofit	PC-PC-0026	Behind 8032 Bethelen Woods La.	Water quality and quantity control	Private - Residential, Public/Local - FCPA	11-25
PC9116	Stormwater Pond Retrofit	PC-PC-0026	Behind 73919 Walnut Knoll Dr.	Water quality and quantity control	Public/Local - FCPA, Private - Residential	11-25
PC9117	Stormwater Pond Retrofit	PC-PC-0026	Across from 7320 Gambrill Rd., Commuter lot	Water quality and quantity control	Public/State - VDOT	11-25
PC9119	Stormwater Pond Retrofit	PC-PC-0028	Behind 7106 Hadlow Ct.	Water quality and quantity control	Public/Local - FCPA	11-25
PC9200	Stream Restoration	PC-PC-0020	Behind 7800 Creekside View La.	Water quality control	Public/State - VDOT	11-25
PC9209	Stream Restoration	PC-PC-0025	Behind 8154 Ships Curve La.	Water quality control	Public/Local - FCPA, Private - HOA	11-25
PC9213	Stream Restoration	PC-PC-0026	Behind 7500 Ridgebrook Dr.	Water quality and quantity control	Public/Local - FCPA	11-25
PC9216	Stream Restoration	PC-PC-0027	Behind 8098 Whitlers Creek Ct.	Water quality control	Private - HOA, Private - Residential	11-25
PC9217	Stream Restoration	PC-PC-0027	Behind 8084 Whitlers Creek Rd.	Water quality and quantity control	Private - HOA	11-25
PC9218	Stream Restoration	PC-PC-0027	Behind 7211 Olde Lantern Way	Water quality and quantity control	Public/Local - FCPA	11-25

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9519	BMP/LID Suite	PC-PC-0028	6703 Barnack Dr., Rolling Valley Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9521	BMP/LID	PC-PC-0029	6703 Barnack Dr., Rolling Valley Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9522	BMP/LID	PC-PC-0031	8600 Bridle Wood Dr., Orange Hunt Pool	Water quality and quantity control	Private - Residential	11-25
PC9532	BMP/LID	PC-PC-0035	6100 Rolling Rd., West Springfield High School	Water quality and quantity control	Public/Local - FCPS	11-25

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
PC9507	BMP/LID	PC-PC-0021	8111 Northumberland Rd., Saratoga Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9514	BMP/LID	PC-PC-0028	7107 Sydenstricker Rd., Hunt Valley Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9516	BMP/LID	PC-PC-0033	6820 Sydenstricker Rd., Orange Hunt Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9520	BMP/LID	PC-PC-0029	6703 Barnack Dr., Rolling Valley Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9804	Dumpsite/ Obstruction Removal	PC-PC-0025	Between Cliffside Ct. & Richfield Rd. (7927 Richfield Rd.)	Water quality control	Public/Local - FCPA
PC9813	Buffer Restoration	PC-PC-0037	Behind 8586 Beatrice Ct.	Water quality control	Private - HOA

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.



Map 5.3

Pohick - Middle
WMA
Proposed Projects

5.4 Pohick – Middle Run Watershed Management Area

Middle Run Watershed Management Area has a total area of approximately 3.97 square miles and is comprised of 12 subwatersheds. It is bound to the north by Old Keene Mill Road and to the roughly by Sydenstricker Road to the northeast. Fairfax County Parkway bisects to the east and Lee Chapel Road bisects to the west.

The WMA has approximately 20.23 miles of stream that flow northwest to southeast. The area consists mainly of single-family attached and detached residential homes. Land cover is primarily impervious surface associated with residential development (i.e., rooftops, sidewalks and roadways) and landscaping, including managed turf. The area is approximately 28 percent impervious. Notable features of the WMA are Huntsman Lake, several elementary schools, a park and ride facility along Fairfax County Parkway and several churches.

Stormwater infrastructure consists primarily of curb and gutter stormwater collection leading to a piped network of storm drains discharging to either dry detention basins or directly into Middle Run and its associated stream valleys and tributaries. The Middle Run WMA contains approximately 37 dry detention facilities designed to manage stormwater quantity. In addition, the WMA contains two underground chambers and one infiltration trench for water quality management. In the Middle Run WMA the most prevalent stream condition features noted include disturbed stream buffers and stream channel widening. The pipes discharging directly into the WMA's streams have a demonstrated impact. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.4.1 0-10 Year Structural Projects

PC9109 Stormwater Pond Retrofit

This stormwater pond retrofit is located at St. Raymond's Penafort Catholic Church east of Fairfax County Parkway and north of Pohick Road. The pond receives runoff from the church and the parking lot. This project proposes modifying the existing discharge structure and expanding the pond to create an extended detention dry pond with a sediment forebay. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids.

PC9114 Stormwater Pond Retrofit

This project is proposed as a pond retrofit at Sangster Elementary School, northwest of Reservation Drive. Stormwater runoff is collected in a closed system and outfalls into a dry pond near the school's entrance. The pond outfalls across Reservation Drive into a wooded area and ultimately into a stream. This project proposes removing the pond's existing pilot channel and retrofitting the pond to create a wetland system with sediment forebays for the two inflows and bench planting to help increase pollutant uptake. The primary indicators are wetland habitat, nitrogen, phosphorus and total suspended solids.

PC9118 Stormwater Pond Retrofit

A large dry pond west of Lee Chapel Road and east of Shipwright Drive receives runoff from a stream in a wooded area and from adjacent neighborhoods. This project is proposed to retrofit the existing pond to create an extended detention dry pond with a sediment forebay. The retrofit will modify the discharge structure to increase the time stormwater stays in the pond. The pond will be increased in size to handle the larger volume and an aquatic bench of wetland plants will be added to treat pollutants. Primary problem indicators are pollutants nitrogen, phosphorus and total suspended solids.

PC9120 Stormwater Pond Retrofit

This project is proposed to create an extended detention dry pond with a sediment forebay. The existing dry pond northwest of Lee Chapel Road and southwest of Southern Cross Lane receives runoff from these roads as well as Ebbtide Lane. Due to the presence of pollutants such as phosphorus, nitrogen and total suspended solids, a retrofit is proposed. This will allow for better downstream channel protection and allow for better function of temporary ponding, as well as promote the settlement of particulate pollution. The pond has easy access and room for expansion.

PC9214 Stream Restoration

This stream is between Arley Drive and Golden Ball Tavern Court. The project is proposed to repair bank and bed erosion, thereby restoring channel morphology. The primary indicator is poor channel morphology. Stream stabilization will reduce sediment loads to the stream, maintaining the capacity of the stream channel and controlling unwanted meander.

PC9515 BMP/LID Suite

This suite of projects is proposed to create bioretention landscaping features to receive runoff from areas at Orange Hunt Elementary School. Both projects are on the west side of the school. Bioretention areas would receive runoff from the fields and blacktops. A filter layer made of 18 – 48 inches of sand is placed below a mulch layer. During a storm the runoff ponds 6 – 9 inches, rapidly filters to an underdrain and outfalls into a wooded area or infiltrates into the native soil. Indicators are pollutants, including nitrogen, phosphorus and total suspended solids.

PC9517 BMP/LID Suite

This suite of projects is proposed to create a bioretention area to receive runoff at Cherry Run Elementary School. The subproject A site is on the south side of the school near the entrance. The subproject B site is on the far north side of the athletic fields. Primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The bioretention areas will be created by grading a depressed area, with a cover layer of mulch and a filter layer of 18 – 48 inches of sand. During a storm the runoff ponds 6 – 9 inches, rapidly filters to an underdrain and outfalls into a wooded area or infiltrates into the native soil.

5.4.2 11-25 Year Structural Projects

PC9112 Stormwater Pond Retrofit

This project proposes retrofiting an existing dry pond west of Throncliff Lane and east of Eagle Rock Lane, which receives runoff from adjacent residential neighborhoods and outfalls into a stream to the south. The primary indicators are pollutants including nitrogen, phosphorus and total suspended solids. This retrofit will create an extended detention dry pond with a sediment forebay and will modify the existing pond to provide adequate downstream channel protection by using a control structure to allow for of temporary ponding , which will promote particulate settlement. This site allows for pond expansion in several directions.

PC9123Stormwater Pond Retrofit

This project proposes the retrofit of an existing public pond to create an extended detention dry pond with a sediment forebay at Pohick Regional Library. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of

temporary ponding using a control structure, which promotes pollutant settlement. The location is ideal because it will have minimal disturbances.

PC9215 Stream Restoration

This project proposes daylighting a closed stormwater pipe that collects runoff from Beachway Lane northwest of the stream. The current storm pipe outfalls in a stream to the northwest. The primary indicator is channel morphology. This proect will return the water to its natural state before entering the stream, which will increase infiltration, reduce runoff rates and reduce erosion.

PC9511 BMP/LID Suite

This project proposes using BMP inlet inserts or manufactured BMP filtration systems to provide pollutant removal at the Huntsman Square Shopping Center, west of Huntsman Boulevard and north of Fairfax County Parkway. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. Filtration will capture and treat stormwater runoff from the highly impervious area prior to entering storm drain system.

PC9524 BMP/LID Suite

This project proposes the replacement of existing pavement in parking stalls with pervious pavement or pavers at the School of the Nativity. Primary indicators are total impervious area and total urban land cover. The pervious pavement will treat and reduce parking lot runoff using a semi-porous material that allows runoff to infiltrate then trap pollutants in the soil. It will also allow for surface storage which will reduce runoff rates. This large parking lot would be an ideal location for this type of treatment.

5.4.3 Non-Structural Projects

PC9512 BMP/LID

The project proposes installing rain barrels/cisterns at Sangster Elementary School northwest of Reservation Drive. This will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9518 BMP/LID

This project proposes installing rain barrels/cisterns at Cherry Run Elementary School, northwest of Raftelis Road. This will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9807 Buffer Restoration

The buffer area has deficiencies at the entrance to a wooded area upstream of a culvert on the north side of Shadowlake Way. This project is proposed to replant to reestablish the RPA. Increased vegetation from buffer repair will provide additional filtration and reduce runoff by intercepting the water, thereby increasing surface storage and infiltration.

PC9808 Dumpsite/Obstruction Removal

An obstruction is located between the northbound and southbound overpasses on the Fairfax County Parkway, west of Wild Spruce Drive. The primary indicators are flood complains. The

obstruction was field verified as concrete. This project is proposed to remove the obstructions and restore the stream channel to its natural conditions. This will also improve the function of the stream.

PC9809 Buffer Restoration

This project is proposed to re-plant stream buffer west of Sea Brook Lane in order to re-establish the RPA. The primary indicators are stream bank buffer deficiency and headwater riparian habitat. Increased vegetation from buffer repair will provide additional stream buffer for filtration of pollutants and will reduce runoff by intercepting the water, thereby increasing surface storage and filtration. The stream receives direct runoff from untreated sources, so the buffer is an important feature for water quality and quantity.

PC9810 Dumpsite/Obstruction Removal Suite

This project suite contains two subprojects. Subproject A involves the removal of an obstruction in the stream south of Gutman Court, west of Sea Brook Lane. This project is proposed to restore natural conditions. The primary indicators are flood complaints. This obstruction has been field verified as a beaver dam. Removal of this obstruction will eliminate flood complaints and help restore the natural shape and function of the stream. Subproject B will address erosion in the stream behind Cottontail Swim and Racquet Club, which has caused trees and other natural debris to build up in the stream, causing potential damming. This project is proposed to remove obstructions to restore natural conditions. This obstruction was also field verified as a beaver dam, and has a high impact score. This will help restore the function of the stream.

PC9824 Lake Management for W.Q. Study

This project is a study to determine the water quality benefits of dredging Huntsman Lake. The lakes are currently trapping sediment. One possible benefit of dredging includes an increased permanent pool volume (which will in turn trap more sediment). Other benefits include extending the lifespan of the lakes, and enhancing recreation. Other water quality benefits include removing shallow foraging areas which may decrease the numbers of waterfowl and associated fecal contamination; increased depth benefits thermal stratification which in turn benefits fisheries. If the lake is eutrophic, dredging may increase dissolved oxygen by decreasing biological oxygen demand (BOD) by removing organic sediment. Dredging may also remove phosphorus bound to these sediments, although this phosphorus is currently locked in place within the lake.

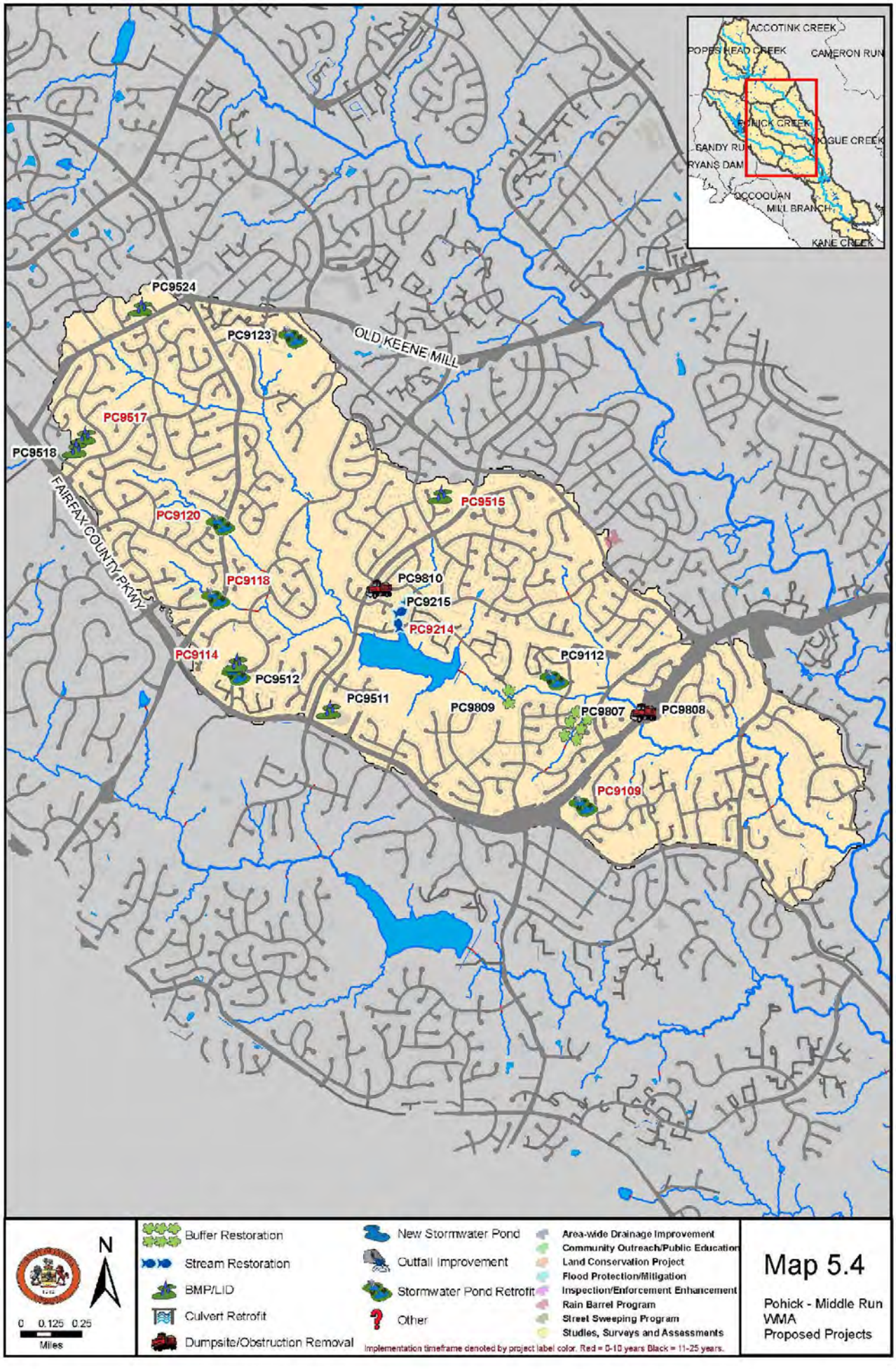
Table 5-4: Project List - WMA (Pohick - Middle Run)

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9109	Stormwater Pond Retrofit	PC-MR-0002	8750 Pohick Rd., St. Raymond's - Penafort Catholic Church	Water quality and quantity control	Private - Church	0-10
PC9114	Stormwater Pond Retrofit	PC-PR-0001	7420 Reservation Dr., Sangster Elementary School	Water quality and quantity control	Public/Local - FCPS	0-10
PC9118	Stormwater Pond Retrofit	PC-SB-0001	Behind 9500 Shipwright Dr.	Water quality and quantity control	Private - HOA	0-10
PC9120	Stormwater Pond Retrofit	PC-PR-0002	Behind 9505 Southern Cross La.	Water quality and quantity control	Private - HOA	0-10
PC9214	Stream Restoration	PC-MR-0005	Behind 7309 Gist Ct.	Water quality control	Public/Local - FCPA	0-10
PC9515	BMP/LID Suite	PC-MR-0006	6820 Sydenstricker Rd., Orange Hunt Elementary School	Water quality and quantity control	Public/Local - FCPS	0-10
PC9517	BMP/LID Suite	PC-PR-0002	9732 Ironmaster Dr., Cherry Run Elementary School	Water quality and quantity control	Public/Local - FCPS	0-10
PC9112	Stormwater Pond Retrofit	PC-MR-0004	Behind 8874 Eagle Rock La.	Water quality and quantity control	Private - HOA	11-25
PC9123	Stormwater Pond Retrofit	PC-CY-0002	6450 Sydenstricker Rd., near Pohick Regional Library	Water quality and quantity control	Public/Local - FCPS	11-25
PC9215	Stream Restoration	PC-MR-0005	Behind 9111 Beachway La.	Water quality and quantity control	Public/Local – FCPA	11-25
PC9511	BMP/LID	PC-MR-0005	7500 Huntsman Blvd., Huntsman Square Shopping Center	Water quality control	Private - Commercial	11-25
PC9524	BMP/LID	PC-CY-0003	6938 Nativity La., School of the Nativity (Church)	Water quality and quantity control	Private - Church	11-25

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
PC9512	BMP/LID	PC-PR-0001	7420 Reservation Dr., Sangster Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9518	BMP/LID	PC-PR-0002	9732 Ironmaster Dr., Cherry Run Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9807	Buffer Restoration	PC-MR-0004	Next to 8800 Shadowlake Way	Water quality control	Private - HOA
PC9808	Dumpsite/ Obstruction Removal	PC-MR-0002	Northeast of intersection of Hooes Rd. & Fairfax County Pkwy.	Water quality control	Public/State - VDOT
PC9809	Buffer Restoration	PC-MR-0004	Behind 7410 Seabrook La.	Water quality control	Public/Local - FCPA
PC9810	Dumpsite/ Obstruction Removal Suite	PC-MR-0004	Behind 8903 Gutman Ct. & 7000 Cottontail Ct.	Water quality control	Public/Local - FCPA
PC9824	Lake Management for W.Q. Study	PC-MR-0005	Huntsman Lake, Near 7600 Modisto Ln.	Water quality and quantity control	Public/Local - FCPA

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**


ACCOTINK CREEK
POPES HEAD CREEK
CAMERON RUN
POHICK CREEK
OGUE CREEK
SANDY RU
RYANS DAM
OCCOQUAN
MILL BRANCH
KANE CREEK
PC9524
PC9123
OLD KEENE MILL
PC9517
PC9518
FAIRFAX COUNTY PKWY
PC9120
PC9515
PC9118
PC9810
PC9215
PC9214
PC9114
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Buffer Restoration
Stream Restoration
BMP/LID
Culvert Retrofit
Dumpsite/Obstruction Removal
New Stormwater Pond
Outfall Improvement
Stormwater Pond Retrofit
Other
Area-wide Drainage Improvement
Community Outreach/Public Education
Land Conservation Project
Flood Protection/Mitigation
Inspection/Enforcement Enhancement
Rain Barrel Program
Street Sweeping Program
Studies, Surveys and Assessments
Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.
Map 5.4
Pohick - Middle Run WMA
Proposed Projects

5.5 Pohick – Middle South Run Watershed Management Area

Middle South Run Watershed Management Area has a total area of approximately 2.95 square miles and is comprised of 10 subwatersheds. It is located in the west central portion of the Pohick Creek Watershed. It is bound on the west by Ox Road and the north and east by Fairfax County Parkway. It is bisected by Lee Chapel Road, which runs from the northeast to southwest, and Silverbrook Road is the southern boundary.

The WMA has approximately 16.06 miles of stream, which primarily flow northwest to southeast, ultimately reaching Lake Mercer. The area consists mainly of single-family residential homes. Land cover consists primarily of impervious surface associated with residential development (i.e., rooftops, sidewalks and roadways) and landscaping, including managed turf. The area is approximately 17 percent impervious. Notable features of the WMA are Lake Mercer, South Run Recreation Center and a portion of Burke Lake Park.

In the Middle South Run WMA the most prevalent stream condition features noted include disturbed stream buffers and stream channel erosion and/or widening. Upstream of Lake Mercer significant channel widening has been documented, along with some limited channel incision and scour. In addition, there are numerous pipes and ditches discharging directly into streams in the WMA. These outfalls contribute to the observed widening and erosive conditions. Several significant obstructions were documented in the WMA. Road crossing impacts in the WMA, while generally minor, were also documented at Lee Chapel Road, as well as the interior of several subdivisions. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.5.1 0-10 Year Structural Projects

PC9110 Stormwater Pond Retrofit

This project is proposed to retrofit an existing wet pond at a community center on Park Circle. To create a wetland system a sediment forebay will be constructed and a bench planting added. The pond collects runoff from adjacent neighborhoods and roadways to the north and outfalls into a stream to the south. The primary indicators are wetland habitat and pollutants, including nitrogen, phosphorus and total suspended solids.

PC9210 Stream Restoration

This project is proposed to repair bank and bed erosion and restore the channel morphology of the stream that runs parallel to the east side of Lee Chapel Road. The proposed restoration ends where the stream connects with a perpendicular stream to the south. The primary indicator is the poor channel morphology. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

5.5.2 11-25 Year Structural Projects

PC9108 Stormwater Pond Retrofit

This project proposes the retrofit of an existing pond to create an extended detention dry pond with sediment forebay. The pond is adjacent to Lake Mercer. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of temporary ponding using a control structure, which enable particulate pollutants to settle out.

PC9207 Stream Restoration

This stream is west of Wagon Trail Lane and south of Huntsman Boulevard, collects runoff from adjacent residential neighborhoods. This project proposes to repair bank and bed erosion to restore channel morphology. The primary indicator is poor channel morphology. Stream stabilization will reduce sediment loads to the stream, maintaining the capacity of the stream channel and controlling unwanted meander.

PC9208 Stream Restoration

This project proposes daylighting a pipe from Northedge Drive. Along with this project, outfall protection and an energy dissipation device will be provided. The primary indicator is poor channel morphology. Daylighting redirects a closed system to an aboveground channel, returning the water to its natural state. This reduces erosion to the stream.

PC9212 Stream Restoration

This project proposes repairing bank and bed erosion in a stream east of Burke Lake and Lake Tree Drive. The primary project indicator was the channel morphology. Stream stabilization will reduce sediment loads to the stream while maintaining the capacity of the stream channel and controlling unwanted meander of the stream.

PC9510 BMP/LID

Subproject A proposes the creation of a bioretention landscaping feature to receive runoff from South Run Recreation Center. The location is such that the bioretention area should receive runoff from the adjacent parking lot. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The filtration will capture and treat stormwater before entering the storm drain system. Subproject B proposes the reconstruction of roadside swales on the access road to South Run Recreation Center. These swales will have vegetative plantings, an energy dissipation device and check dams. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. These retrofitted swales will reduce flow velocities and increase filtration capacity. Swales along road should have minimal disturbance.

5.5.3 Non-Structural Projects

PC9803 Buffer Restoration

This project is proposed to re-plant stream buffer south of Lake Mercer and west of Jeffrey Court. Re-planting the buffer will re-establish the RPA. The main indicators are stream bank buffer deficiency and headwater riparian habitat. Increased vegetation from buffer repair will provide additional stream buffer for filtration of pollutants, and will reduce runoff by intercepting the water, thereby increasing surface storage and infiltration.

PC9805 Dumpsite/Obstruction Removal

A dumpsite/obstruction is located in the portion of the stream west (upstream) of the culvert under Lee Chapel Road and north of Stony Creek Court. The primary indicators are flood complaints. Field verification revealed obstructions are from trash and debris. This project proposes the cleanup of trash in or near the stream channel to help reduce the amount of pollutants entering adjacent streams and storm systems. The cleanup will help restore the function of the stream.

PC9806 Dumpsite/Obstruction Removal

This project is proposed to remove an obstruction in the stream south of Rambling Ridge Road and Wilderness Way. The primary indicators are flood complaints. The obstruction was verified as a beaver dam. The removal will reduce flood complaints and will restore the stream to its natural conditions and help restore its function.

PC9823 Lake Management for W.Q. Study

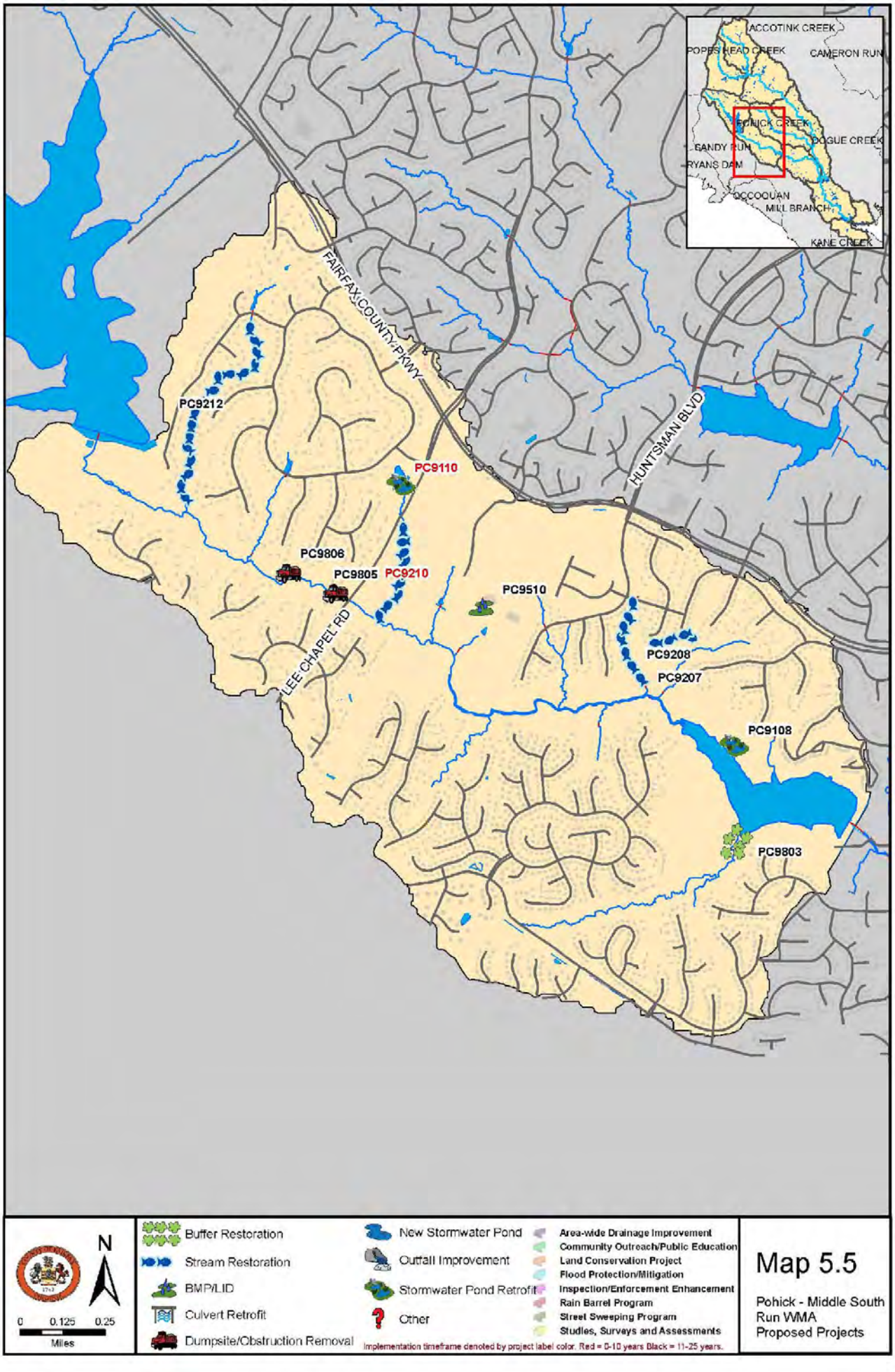
This project is a study to determine the water quality benefits of dredging Lake Mercer. The lakes are currently trapping sediment. One possible benefit of dredging includes an increased permanent pool volume (which will in turn trap more sediment). Other benefits include extending the lifespan of the lakes, and enhancing recreation. Other water quality benefits include removing shallow foraging areas which may decrease the numbers of waterfowl and associated fecal contamination; increased depth benefits thermal stratification which in turn benefits fisheries. If the lake is eutrophic, dredging may increase dissolved oxygen by decreasing biological oxygen demand (BOD) by removing organic sediment. Dredging may also remove phosphorus bound to these sediments, although this phosphorus is currently locked in place within the lake.

Table 5-5: Project List - WMA (Pohick - Middle South)

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9110	Stormwater Pond Retrofit	PC-SR-0013	9908 South Park Ci.	Water quality and quantity control	Private - Residential	0-10
PC9210	Stream Restoration	PC-SR-0013	Behind 7801 Preakness La.	Water quality control	Public/Local - FCPA	0-10
PC9108	Stormwater Pond Retrofit	PC-SR-0018	Behind 7278 Lakeland Valley Dr.	Water quality and quantity control	Public/Local - FCPA	11-25
PC9207	Stream Restoration	PC-SR-0010	Along access road next to 7719 Wagon Trail La.	Water quality control	Public/Local - FCPA	11-25
PC9208	Stream Restoration	PC-SR-0018	Next to 9245 Northedge Dr.	Water quality and quantity control	Private - HOA	11-25
PC9212	Stream Restoration	PC-SR-0015	Behind 4312 South View Ct.	Water quality control	Private - HOA, Public/Local - FCPA	11-25
PC9510	BMP/LID Suite	PC-SR-0011	7549 Reservation Dr., South Run Recreation Center	Water quality and quantity control	Public/Local - FCPS	11-25

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
PC9803	Buffer Restoration	PC-SR-0018	Behind 8104 Jeffrey Ct.	Water quality control	Public/Local - FCPA
PC9805	Dumpsite/ Obstruction Removal	PC-SR-0014	Along Lee Chapel Rd., behind Stony Creek Ct.	Water quality control	Public/Local - FCPA
PC9806	Dumpsite/ Obstruction Removal	PC-SR-0014	Near 7528 Rambling Ridge Dr.	Water quality control	Public/Local - FCPA
PC9823	Lake Management for W.Q. Study	PC-SR-0018	Lake Mercer, Near 7720 Wagon Trail Ln.	Water quality and quantity control	Public/Local - FCPA

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.


ACCOTINK CREEK
POPES HEAD CREEK
CAMERON RUN
POHICK CREEK
DOGUE CREEK
SANDY RUN
RYANS DAM
OCCOQUAN
MILL BRANCH
KANE CREEK
FAIRFAX COUNTY PKWY
HUNTSMAN BLVD
LEE CHAPEL RD
PC9212
PC9110
PC9806
PC9805
PC9210
PC9510
PC9208
PC9207
PC9108
PC9803
N
0
0.125
0.25
Miles
Buffer Restoration
Stream Restoration
BMP/LID
Culvert Retrofit
Dumpsite/Obstruction Removal
New Stormwater Pond
Outfall Improvement
Stormwater Pond Retrofit
Other
Area-wide Drainage Improvement
Community Outreach/Public Education
Land Conservation Project
Flood Protection/Mitigation
Inspection/Enforcement Enhancement
Rain Barrel Program
Street Sweeping Program
Studies, Surveys and Assessments
Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.
Map 5.5
Pohick - Middle South Run WMA
Proposed Projects

5.6 Pohick – Potomac Watershed Management Area

The Potomac Watershed Management Area is located in the extreme southern portion of the Pohick Creek watershed and contains a total of eight subwatersheds. The Potomac WMA is bounded on the south by Gunston Road and is comprised primarily of public lands, including a portion of Fort Belvoir and the Pohick Regional Park. The Potomac WMA contains limited single-family, detached residential properties. The majority of the observed single-family detached dwellings were constructed on lots estimated at one acre or more. The age of development, in this WMA, ranges from 25 years old to approximately 5 years old (2000s), with little evidence of recent infill development.

Land cover consists primarily of woodland and tidal wetlands, with some impervious surface associated with residential development (i.e., rooftops, streets and driveways) and limited landscaping management. No stormwater management facilities or infrastructure were observed in the Potomac WMA, including curb and gutter on roadways. Among the non-residential land uses observed, Potomac contains primarily institutional properties associated with public lands and open space holdings, including the majority of Pohick Bay Regional Park on the south side of Pohick Bay and the Accotink Bay Wildlife Refuge and Fort Belvoir on the north shore of Pohick Bay.

In the Potomac WMA the most prevalent stream condition problems noted were stream channel widening and incision. Given the lack of development in this WMA, these conditions may be attributable to the fairly steep drop in elevation seen between points in Pohick Bay Regional Park and Pohick Bay itself. The elevation drop and soil conditions may give rise to excessive channel incision and head cutting, which was also documented on two small tributaries in the park draining to Pohick Bay.

This WMA had the best subwatershed scores throughout the entire Pohick Creek Watershed, and therefore no projects were proposed in this WMA. Improving the headwaters of the Pohick Creek Stream was given priority over the Potomac WMA, due to the fact that any improvements done to the headwater areas would have compounding advantages downstream. The WMA map is provided for reference.

5.6.1 0-10 Year Structural Projects

No projects proposed.

5.6.2 11-25 Year Structural Projects

No projects proposed.

5.6.3 Non-Structural Projects

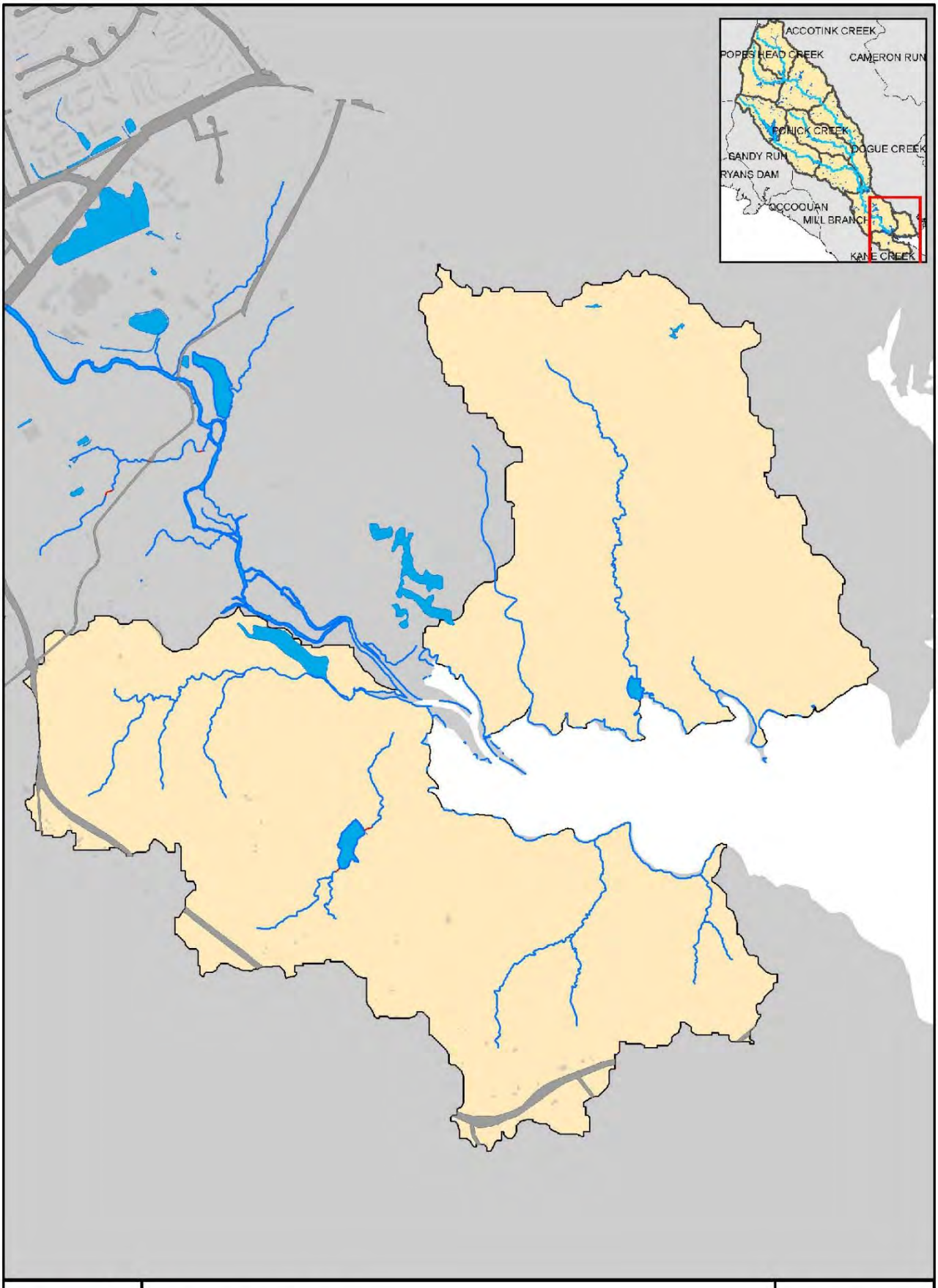
No projects proposed.

Table 5-6: Project List - WMA (Pohick - Potomac)

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
N/A	No projects	N/A	N/A	N/A	N/A	N/A

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
N/A	No projects	N/A	N/A	N/A	N/A

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**



Map 5.6

Pohick - Potomac
WMA
Proposed Projects

5.7 Pohick – Rabbit Branch Watershed Management Area

Rabbit Branch Watershed Management Area has a total area of approximately 3.95 square miles and is comprised of 15 subwatersheds. It is located in the northern part of the Pohick Creek Watershed. A portion of the northern part is within the city of Fairfax. Its northern boundary is south of Route 236, the western boundary is Ox Road and Sideburn Road, the eastern boundary is Burke Station Road, Braddock Road and Twinbrook Road, and the boundary extends just beyond Burke Centre Parkway to the south.

The WMA has approximately 15.50 miles of stream, which primarily flows from north to south. The area consists mainly of single-family residential homes, and also includes some dense residential communities. Land cover consists of mainly impervious surfaces related to residential development (i.e., rooftops, sidewalks and roadways) and landscaping, including managed turf. The area is 27.80 percent impervious. Notable features of the watershed management area are Royal Lake, George Mason University and Robinson Secondary School.

In the Rabbit Branch WMA the most prevalent stream condition problems noted include disturbed stream buffers and stream channel erosion and/or widening. Pipes and ditches discharge untreated stormwater directly into the WMA's streams in many instances, and have contributed to the observed widening and eroded conditions. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.7.1 0-10 Year Structural Projects

PC9135 Stormwater Pond Retrofit

A dry pond retrofit is proposed east of Nottinghill Lane and west of Roberts Road. The pond is upstream of the culvert under Roberts Road, which outfalls to a stream on the other side of the road. This project is proposed to create an extended detention dry pond with a sediment forebay. The primary indicators are nitrogen, phosphorus and total suspended solids.

PC9138 Stormwater Pond Retrofit

This proposed stormwater pond retrofit is east of Nantucket Court and northwest of Allenby Road. The pond, 0036DP, collects runoff from adjacent residential neighborhoods. This project is proposed to retrofit the pond to create an extended detention dry pond with a sediment forebay. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids.

PC9140 Stormwater Pond Retrofit

This project is proposed to retrofit of an existing wet pond at George Mason University, near Mason Pond Drive and Roanoke River Lane, to create a wetland system with sediment forebays and bench planting. The sediment forebays will provide pretreatment of stormwater runoff and the bench planting will increase the pollutant removal. The primary problem indicators are pollutants, including nitrogen, phosphorus and total suspended solids.

PC9256 Stream Restoration

This stream is located on Fairfax County Park Authority land, north of Windsor Hills Drive. The stream has indicators of poor channel morphology, which could be improved though the proposed repair to bank and bed erosion. The stream receives water from adjacent residential neighborhoods. The stormwater is collected in pipes and receives no treatment before

discharging to the stream. Stream stabilization will reduce sediment while maintaining capacity of the channel and controlling unwanted meander.

PC9259 Stream Restoration

This project is proposed to repair bank and bed erosion in a stream that discharges to pond 0223DP. The stream is located in a wooded open space. The primary indicator is poor channel morphology. Stream stabilization will reduce sediment loads to the stream while maintaining capacity. This is especially important at the upstream location of the lake.

PC9260 Stream Restoration

This stream runs parallel to Powell Road towards Commonwealth Boulevard and has indicators of poor channel morphology. The project is proposed to repair bank and bed erosion and restore channel morphology. Stream stabilization will reduce sediment loads to the stream while maintaining capacity of the channel and controlling unwanted meander. Erosion will be stabilized through the use of bank shaping, toe of slope protection, erosion control fabrics, and rapid native vegetation establishment.

PC9263 Stream Restoration

The stream west of Dequincey Drive shows indications of poor channel morphology. This project is proposed to improve channel morphology by repairing bed and bank erosion. These repairs will include streambed shaping, rock toe reinforcement, erosion control fabric, and revegetation in degraded areas. The stream currently conveys water from three different sources: sheet flow from adjacent neighborhoods, untreated stormwater from a closed storm system outfall and the outfall from a dry pond. Stream stabilization will reduce sediment loads, maintain capacity of the stream channel and control unwanted meander.

PC9269 Stream Restoration

This stream, east of Glemere Road and south of Cotton Farm Road, outfalls into 0588DP. This project is proposed to repair bank and bed erosion due to poor channel morphology. Stream stabilization will be used to reduce sediment loads to the stream while maintaining the capacity of the channel and control unwanted meander of the stream.

PC9548 BMP/LID

This project proposes installing manufactured BMP filtration systems into existing storm inlets at Twinbrook Shopping Centre, southwest of Braddock Road to provide pollutant removal. A typical insert acts as a basket that collects sediment and larger debris such as trash and leafs. Filters should be selected to target the known pollutants. The filters need to be cleaned on a routine basis, typically every six months. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids.

5.7.2 11-25 Year Structural Projects

PC9137 Stormwater Pond Retrofit

Existing dry pond east of Wenzel Street proposed to be retrofitted to create an extended detention dry pond with sediment forebay. Pond currently receives runoff from adjacent neighborhoods. A stream also flows into it from the northeast. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection, which is important because the pond outfalls into an existing stream. It will also allow for better function of ponding using a control structure, which enables particulate pollutants to settle before entering the stream.

PC9248 Stream Restoration

This project proposes repairing bank and bed erosion between Guinea Road and the railroad tracks. This will help to restore the poor channel morphology. Stream stabilization will reduce sediment loads to the stream while maintaining the capacity of the channel and controlling unwanted meandering.

PC9265 Stream Restoration

Stream running parallel to Tapestry Drive and west of Roberts Road. This project proposes to improve channel morphology by repairing bank and bed erosion. Stream receives runoff from several adjacent residential neighborhoods. Stream stabilization will reduce sediment loads to the stream, maintaining capacity of the stream channel and controlling unwanted meander.

PC9266 Stream Restoration

Stream west of Banting Drive, receives runoff from adjacent development. To improve poor channel morphology, this project proposes to repair bank and bed erosion. Stream stabilization will reduce sediment loads to the stream while maintaining capacity of the stream channel and controlling unwanted meander.

PC9267 Stream Restoration

This project proposes daylighting the storm pipe coming from the hospital/healthcare facility campus entering the stream. The primary indicator is poor channel morphology. Daylighting a piped outfall farther upstream and providing both outfall protection and an energy dissipation device will redirects a closed system back to an aboveground channel returning the water to its natural state and helping reduce runoff rates, thereby minimizing channel erosion.

PC9268 Stream Restoration

This project proposes improving the stream morphology by repairing bank and bed erosion. The stream runs southeast towards Braddock Road alongside Tapestry Drive where it connects with another stream. Many adjacent neighborhoods convey their stormwater in closed systems and outfall into stream. The stream stabilization will reduce sediment loads to the stream while maintaining capacity of the stream channel and controlling unwanted meander.

PC9546 BMP/LID Suite

Subproject A proposes the creation of bioretention landscaping west of the parking lot at Laurel Hill Elementary School. Primary indicators are pollutants, such as nitrogen, phosphorus and total suspended solids. The selected area is generally a low spot, however a large portion of the runoff will already be captured by a closed system before reaching the bioretention area. This area will create an ideal environment for filtration, biological uptake and microbial activity. It will

also reduce the outflow to the storm system and promote ground water recharge. Subproject B proposes the installation of a bioswale to route runoff at the Laurel Hill Center. Runoff comes from a blacktop, the building and fields. The primary indicators are pollutants including nitrogen, phosphorus and total suspended solids. The proposed bioswale will capture sheet flow and help create an ideal environment for filtration, biological uptake and microbial activity. It will also help in reducing runoff volume and increase groundwater recharge.

PC9547 BMP/LID

This project proposes the creation of a bioretention landscaping feature at Robinson Secondary School. The area selected is higher than the impervious runoff. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. Bioretention landscaping will create an ideal environment for filtration, biological uptake and microbial activity. It will also reduce outfall to the storm sewer system and recharge groundwater.

PC9549 BMP/LID

This project proposes the replacement of existing pavement in parking stalls with pervious pavement or pavers at Robinson Secondary School. The primary indicator is large total impervious area. The pervious pavement will treat and reduce parking lot runoff using a semi-porous material that allows runoff to infiltrate then trap pollutants in the soil. It also promotes surface storage and a reduction in runoff volumes.

PC9553 BMP/LID

This project proposes retrofitting existing roof of parking garage at George Mason University at the intersection of Patriot Circle and Sandy Creek Way with extensive green roof. The primary indicators are pollutants, including nitrogen and phosphorus. Green roofs will store, treat and reduce the runoff volume using vegetation and soil. It offers an option for pollutant removal in areas that are completely built out.

PC9554 BMP/LID

This project proposes retrofitting existing roof of parking garage at George Mason University between Mason Pond Drive and George Mason Boulevard with extensive vegetative cover. The primary indicators are pollutants, including nitrogen and phosphorus. Green roofs will store, treat and reduce the runoff volume using vegetation and soil. It offers an option for pollutant removal in areas that are completely built out.

5.7.3 Non-Structural Projects

PC9821 Buffer Restoration

The buffer area of stream leading into Royal Lake (PL 566 dam number four), adjacent to Gainsborough Drive, has deficiencies. This project is proposed to re-plant the buffer to re-establish the RPA. Increased vegetation from the buffer repair will provide additional filtration of pollutants and will reduce runoff by intercepting the water, thereby increasing surface storage and infiltration. This is an especially critical area because it is upstream of a large lake and will affect the overall health of this body of water.

PC9822 Buffer Restoration

This project is proposed to re-plant a stream buffer to re-establish the RPA of the stream at Lakeside Park. The primary indicator is buffer deficiency. Increased vegetation from buffer

repair will provide additional stream buffer for filtration of pollutants and will reduce runoff by intercepting water, thereby increasing surface storage infiltration.

PC9827 Lake Management for W.Q. Study

This project is a study to determine the water quality benefits of dredging Royal Lake. The lakes are currently trapping sediment. One possible benefit of dredging includes an increased permanent pool volume (which will in turn trap more sediment). Other benefits include extending the lifespan of the lakes, and enhancing recreation. Other water quality benefits include removing shallow foraging areas which may decrease the numbers of waterfowl and associated fecal contamination; increased depth benefits thermal stratification which in turn benefits fisheries. If the lake is eutrophic, dredging may increase dissolved oxygen by decreasing biological oxygen demand (BOD) by removing organic sediment. Dredging may also remove phosphorus bound to these sediments, although this phosphorus is currently locked in place within the lake.

Table 5-7: Project List - WMA (Pohick - Rabbit Branch)

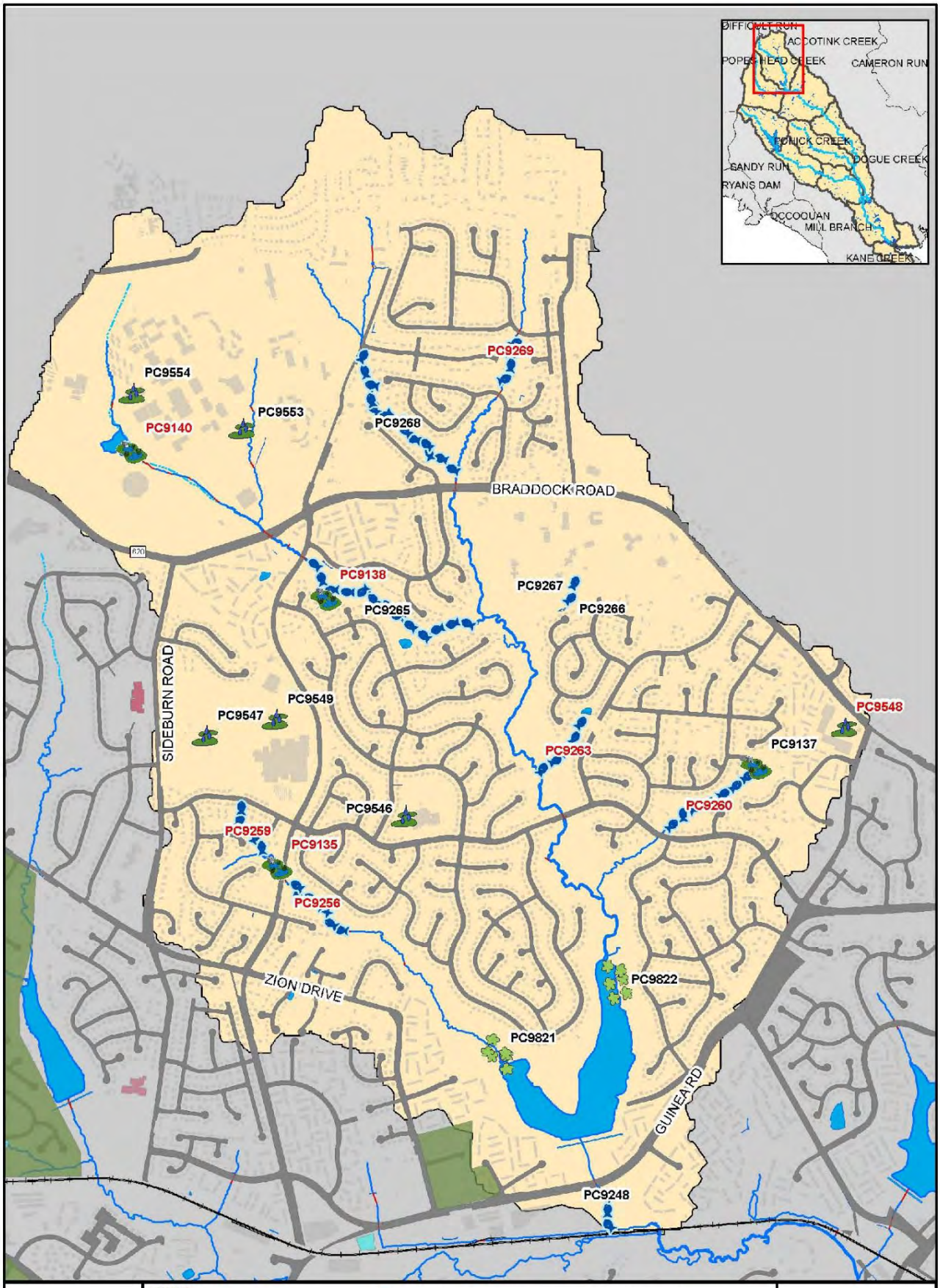
Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9135	Stormwater Pond Retrofit	PC-RA-0005	Behind 5220 Nottinghill La., Pond along Roberts Rd.	Water quality and quantity control	Private - HOA	0-10
PC9138	Stormwater Pond Retrofit	PC-RA-0010	Behind 10305 Nantucket Ct.	Water quality and quantity control	Private - HOA	0-10
PC9140	Stormwater Pond Retrofit	PC-RA-0011	Intersection of Mason Pond Dr. and Roanoke River La.	Water quality and quantity control	Public/State - GMU	0-10
PC9142	New Stormwater Pond	PC-RA-0012	Northwest of intersection of Roberts Road and Braddock Road	Water quality and quantity control	Public/State - GMU	0-10
PC9256	Stream Restoration	PC-RA-0004	Behind 5351 Brandon Ridge Way	Water quality control	Public/Local - FCPA	0-10
PC9259	Stream Restoration	PC-RA-0005	Behind 5220 Nottinghill La.	Water quality control	Private - HOA	0-10
PC9260	Stream Restoration	PC-RA-0006	Near 9800 Commonwealth Blvd.	Water quality control	Private - HOA	0-10
PC9263	Stream Restoration	PC-RA-0008	Behind 5802 Dequincey Dr.	Water quality control	Public/Local - FCPA	0-10
PC9269	Stream Restoration	PC-RA-0014	Next to 10159 Red Spruce Rd.	Water quality control	Private - HOA, Private - Residential	0-10
PC9548	BMP/LID	PC-RA-0006	9525 Braddock Rd., Twinbrooke Shopping Center	Water quality control	Private - Commercial	0-10
PC9137	Stormwater Pond Retrofit	PC-RA-0006	Behind 9463 Wenzel St.	Water quality and quantity control	Private - HOA	11-25
PC9248	Stream Restoration	PC-RA-0001	Along RR tracks near 5610 Sandy Lewis Dr.	Water quality control	Private - Residential	11-25
PC9265	Stream Restoration	PC-RA-0010	Behind 10156 Bessmer La.	Water quality control	Private - HOA	11-25
PC9266	Stream Restoration	PC-RA-0009	Behind 9733 Abington Ct.	Water quality control	Public/State - Commonwealth of VA, State Hospital Board	11-25

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9267	Stream Restoration	PC-RA-0009	9911 Braddock Rd., near Braddock Rd. Hospital	Water quality and quantity control	Public/State - Commonwealth of VA, State Hospital Board	11-25
PC9268	Stream Restoration	PC-RA-0013	Behind 4613 Tapestry Dr.	Water quality control	Private - HOA	11-25
PC9546	BMP/LID Suite	PC-RA-0004	10110 Commonwealth Blvd., Laurel Ridge Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9547	BMP/LID	PC-RA-0005	5035 Sideburn Rd., Robinson Secondary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9549	BMP/LID	PC-RA-0005	5035 Sideburn Rd., Robinson Secondary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9553	BMP/LID	PC-RA-0012	Intersection of Patriot Ci. and Sandy Creek Way, George Mason University Parking Garage	Water quality and quantity control	Public/State - GMU	11-25
PC9554	BMP/LID	PC-RA-0011	Between Mason Pond Dr. and George Mason Blvd. (Parking Garage)	Water quality and quantity control	Public/State - GMU	11-25

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
PC9821	Buffer Restoration	PC-RA-0003	Behind 5330 Gainsborough Dr.	Water quality control	Public/Local - FCPA
PC9822	Buffer Restoration	PC-RA-0002	5216 Pommeroy Dr., Lakeside Park	Water quality control	Public/Local - FCPA
PC9827	Lake Management for W.Q. Study	PC-RA-0002	Royal Lake, Near 5344 Gainsborough Dr.	Water quality and quantity control	Public/Local - FCPA

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.



Map 5.7

Pohick - Rabbit Branch WMA
Proposed Projects

5.8 Pohick – Sideburn Branch Watershed Management Area

Sideburn Branch Watershed Management Area has a total area of approximately 3.61 square miles and is comprised of 16 subwatersheds. It is located on the northeast side of the Pohick Creek Watershed. It is bound on the west side by Ox Road and the south side by Fairfax County Parkway and points north. The eastern boundary is approximately two miles east of Ox Road and the northeastern boundary is Sideburn Road to Zion Drive to Guinea Road.

The WMA has approximately 15.40 miles of stream, which primarily flows from the north and west to the east. The area mainly consists of single-family residential, largely characterized by streets ending in cul-de-sacs. Land cover consists of mainly impervious surfaces related to the residential development (i.e., rooftops, sidewalks and roadways) and landscaping, including managed turf. The area is 33 percent impervious. Notable features of the watershed management area are Woodglen Lake, Lake Barton, several elementary schools and libraries, Virginia Railway Express (VRE) parking facility and Fairfax County Wastewater Collection Division.

In the Sideburn Branch WMA the most prevalent stream condition features noted include disturbed stream buffers and stream channel erosion and/or widening. Upstream of Woodglen Lake, significant channel erosion has been documented, along with subsequent channel widening. Buffer disturbances and channel widening conditions have also been documented upstream of Lake Barton. In addition, pipe discharge and ditch discharge into the WMA's streams have demonstrated impacts as well. These pipes and ditches discharge stormwater runoff directly into the streams in many instances, contributing to the observed widening and erosive conditions. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.8.1 0-10 Year Structural Projects

PC9127 Stormwater Pond Retrofit

This large dry pond receives runoff from a large drainage area that includes Terre Centre Elementary School to the west and a residential neighborhood to the east. The pond outfalls to the north under Burke Centre Parkway into a stream.The primary indicators are pollutants such as nitrogen, phosphorus and total suspended solids. The pond will be retrofitted as an extended detention dry pond with sediment forebays at the inlet pipes.

PC9128 Stormwater Pond Retrofit

This project is proposed to retrofit the existing pond to create an extended detention dry pond with sediment forebays. The pond receives stormwater from a closed pipe system that collects runoff from an adjacent residential neighborhood. The pond outfalls across Burke Centre Parkway through the Wal-Mart parking lot storm sewer and discharges into a stream across Roberts Parkway.

PC9129 Stormwater Pond Retrofit

The Fairfax County Wastewater Collection Division parking lot drains from south to north. Runoff from the parking lots is piped into the pond on the north side of the site, which outfalls to an adjacent stream. This project is proposed to retrofit the existing dry pond by increasing the

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

pond's size and installing a discharge structure that will increases detention time for stormwater runoff.

PC9130 Stormwater Pond Retrofit

This project is proposed to retrofit an existing dry pond into an extended detention pond with a sediment forebay. The pond is located at the south side of the Target shopping center. Stormwater runoff is collected in the parking lot through storm inlets and conveyed to the existing pond for treatment. This retrofit will improve stormwater runoff quality by using a sediment forebay to pretreat runoff. The pond's detention time will be increased to allow more pollutants to settle out and break down through biological processes.

PC9131 Stormwater Pond Retrofit

This large dry pond behind a residential community is currently well vegetated. This pond retrofit will modify the exisitng discharge structure to create an extended detention dry pond with sediment forebay. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The large drainage area captures runoff from dense residential, single-family residential, roadways and wooded areas.

PC9139 Stormwater Pond Retrofit

This existing pond receives runoff from the shopping center and parking lot. The stormwater is conveyed in a closed system from north to west. Runoff is also received from a subdivision to the east. The primary indicators are pollutants including nitrogen, phosphorus and total suspended solids. The project is proposed to retrofit the existing pond to create an extended detention dry pond with sediment forebays.

PC9236 Stream Restoration

This stream is located behind homes in a single-family residential neighborhood. It conveys stormwater from adjacent homes and streets including Oak Leather Drive, Fred's Oak Road, Fred's Oak Court and Vernon's Oak Court. The stream continues downstream of the culvert under Oak Leather Drive. The project is proposed to repair bank erosion and restore channel morphology upstream of Oak Leather Drive.

PC9237 Stream Restoration

This stream section runs between Reeds Landing Court and Burnside Landing Drive. Pipes discharge directly into streams from adjacent subdivisions. The project consists of repairing bank and bed erosion and restoring channel morphology. The primary indicator is poor channel morphology. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

PC9239 Stream Restoration

Runoff from a residential neighborhood is collected in a closed system of pipes. Currently, a concrete channel between residential buildings conveys stormwater to a closed system that outfalls directly into the stream. This project is proposed to remove a portion of the concrete channel and closed system to create a more natural channel to convey stormwater to the stream. Due to the slope, a series of check dams or step pools may be necessary to keep velocities low.

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

PC9240 Stream Restoration

This project is located upstream of the Burke Centre Parkway culvert. The stream conveys stormwater from single-family homes. The primary indicator is poor channel morphology. The purpose of the project is to restore channel morphology and to add an energy dissipation device. This will reduce sediment loads to the stream while maintaining capacity of the stream channel and controlling unwanted meandering of the stream.

PC9241 Stream Restoration

This project is located upstream of the culvert under Oak Leather Drive. The stream conveys runoff from neighborhood and community recreation facilities. Stream stabilization will repair bank and bed erosion and restore stream morphology. The focus of this project will be on insuring proper buffers from the dense residential areas while improving the five direct stormwater outfalls to the stream bed.

PC9246 Stream Restoration

This project is proposed to repair bank and bed erosion to improve poor channel morphology of a stream east of Roberts Parkway and south of the railroad tracks. The stream conveys runoff from adjacent dense residential development. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

PC9247 Stream Restoration Suite

Subproject A is a stream restoration and will repair bed and bank erosion in the stream southwest of Premier Court at the VRE Station. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment. Subproject B is an obstruction removal southeast of Ships Curve Lane. Primary indicators are flood complaints. The obstruction were field verified as fallen trees and a beaver dam. This project proposes the removal of obstructions blocking the stream channel to reduce flood complaints and restore natural conditions.

PC9250 Stream Restoration

This stream is located south of Golden Eye Lane and north of the railroad tracks. The stream receives runoff from adjacent neighborhoods. The primary indicator is poor channel morphology. This project is proposed to repair bank and bed erosion and restore channel morphology. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

PC9254 Stream Restoration

For this project, the primary indicator is poor channel morphology. This project is proposed to restore the stream that discharges into Woodglen Pond by repairing bank and bed erosion and restoring channel morphology. This will reduce sediment loads to the stream while maintaining capacity of the stream channel and controlling unwanted meander of the stream. Erosion will be stabilized through the use of bank shaping, toe of slope protection, erosion control fabric and rapid native vegetation establishment.

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

PC9261 Stream Restoration

This project is proposed to restore a stream running parallel to Colton Street. The primary indicator is poor channel morphology. The stream conveys runoff from adjacent residential development. The project consists of repairing bank and bed erosion and restoring channel morphology. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

PC9262 Stream Restoration

The stream to the east of Portsmouth Road and west of Gadsen Drive flows to the south. The stream collects runoff from adjacent residential neighborhoods and schools to the north, east and west. This project is proposed to repair and restore bank and bed erosion, some of which is severe. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

PC9531 BMP/LID Suite

This suite of projects is proposed to create bioswales near the back of a green roof at Terra Centre Elementary School. The bioswales will have a filter layer of sand to promote infiltration to native soils or to perforated underdrain. Primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. Runoff will enter a closed system and outfall directly into a nearby stormwater facility.

PC9534 BMP/LID

This BMP/LID project will be comprised of inlet inserts placed in the existing inlets to provide pollutant removal. Runoff from the parking lot at Giant Grocery Store is collected in a closed pipe system and discharged to the stream behind the building to the east. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. Depending on the existing inlet, the inserts will either be in the form of a basket or a cartridge. This method is ideal due to the high imperviousness and space constraints on the site.

PC9535 BMP/LID

A series of curb inlets collect runoff from the Fairfax County Wastewater Collection Division parking lot, which is conveyed in a closed system. The majority of the site outfalls into a pond on the north side of the site. However, a portion of the runoff is untreated. The primary indicators are pollutants, including phosphorus, nitrogen and total suspended solids. This project proposes a biorentetion area at the northeast side of the parking lot. A filter layer made of 18 – 48 inches of sand is placed below a mulch layer. During a storm, the runoff ponds 6 – 9 inches, rapidly filters to an underdrain, and outfalls into wooded area or infiltrates into the native soil.

PC9539 BMP/LID

This storm system collects runoff from the shopping center located near the intersection of Burke Centre Parkway and Oak Green Way, and outfalls to the stream along the railroad tracks. A portion of the parking lot is conveyed in a closed system in the adjacent shopping center to the east and west, and the remaining is conveyed by a closed system to a stream to the south. This project is proposed to incorporate BMP inlet inserts or manufactured BMP filtration systems to provide pollutant removal before outfalling into the stream.

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

PC9702 Outfall Improvement

Swale reconstruction is proposed in the fields behind Fairview Elementary School. An exisitng grass swale discharges into the stream adjacent to the school. The swale is located between two playing fields. The project is proposed to add energy dissipation devices to the swale, such as check dams and increased planting, to decrease velocities, increase infiltration and improve stormwater quality.

PC9703 Outfall Improvement

This project is proposed to improve the outfall located in open space east of a shopping center and west of the power company facility along Guinea Road. An energy dissipation device will be constructed at the outfall. This project will help address the existing erosion problem in the downstream channel. This outfall conveys discharge from dry pond 0175DP and the roadway drainage system for New Quinea Road.

PC9705 Outfall Improvement

A new storage and treatment area is proposed below the outfall from pond 0233DP and the closed system along John Ayres Drive. A sediment basin will be created inline with the stream to help dissipate erosive velocities. Plants with good nutrient uptake will be installed to reduce pollutant loading from the untreated stormwater runoff. A primary indicator is stream bank buffer deficiency in headwater riparian habitat.

5.8.2 11-25 Year Structural Projects

PC9134 Stormwater Pond Retrofit

Small dry pond receiving runoff from closed systems from large parking lot at St. Mary's Church, Concordia Street and Sideburn Road. Indicators are pollutants including phosphorus, nitrogen and total suspended solids. The project proposes the retrofit of the existing pond to create an extended detention dry pond with sediment forebay. The retrofit will modify the existing pond to create adequate downstream channel protection and allow for better function of pond using a control structure. This will promote particulate pollutants to settle out. Large open space adjacent to pond can be used for overflow during large storm events.

PC9243 Stream Restoration

Stream runs adjacent to Roberts Parkway. The project proposes repairing bank and bed erosion and restoring stream morphology. This will help maintain the capacity of the stream and control unwanted meander.

PC9536 BMP/LID Suite

This suite of projects proposes the creation of a bioretention landscaping features to receive impervious runoff at Landings Community Center and Pool. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The bioretention area will create an ideal environment for filtration, biological uptake and microbial activity. It will also reduce runoff rates and recharge the groundwater.

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

PC9540 BMP/LID Suite

This suite of projects proposes creating bioretention areas at Bonnie Brae Elementary School. The bioretention will capture runoff from impervious areas, promote infiltration, reduce runoff rates and have some pollutant treatment.

PC9550 BMP/LID Suite

This suite of projects proposes the creation of a bioretention landscaping features to receive runoff from impervious areas at Oak View Elementary School. The impervious areas come from a blacktop and the roof of the school. The primary indicators are pollutants, including nitrogen, phosphorus and suspended solids. The bioretention area will create an ideal environment for filtration, biological uptake and microbial activity. These features will help reduce the outflow to the storm sewer and recharge the ground water.

5.8.3 Non-Structural Projects

PC9538 BMP/LID

This project is proposed to install a rain barrel/cistern at Fairview Elementary School. This will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9541 BMP/LID

This project is proposed to install a rain barrel/cistern at Bonnie Brae Elementary School off Sideburn Road. This will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9551 BMP/LID

This project is proposed to install a rain barrel/cistern at Oak View Elementary School off Sideburn Road. This will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9815 Street-Sweeping Program

A street-sweeping program is proposed between the Fairfax County Parkway and Burke Centre Parkway, west of Roberts Parkway, to help reduce the amount of potential pollutants entering the nearby streams and storm systems. The area is approximately 430 acres and is comprised of single-family residential development. There is no existing stormwater quality treatment. There are several streams within the proposed project area.

PC9816 Buffer Restoration

This stream is located behind the residential area near Freds Oak Court and conveys runoff from industrial areas and adjacent subdivisions. The primary indicator is stream bank buffer deficiency in headwater riparian habitat. This project is proposed to replant the RPA and upland buffer area. Increasing the vegetation will provide an additional stream buffer for filtration of pollutants and will reduce runoff, increasing surface storage and infiltration.

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

PC9817 Street-Sweeping Program

A street-sweeping program is proposed east of Burke Centre Parkway and west of Roberts Parkway to help reduce the amount of potential pollutants entering the nearby streams and storm systems. The area is approximately 42 acres and is comprised multi-family residential development. There is no existing stormwater quality treatment. The area is directly upstream of Lake Barton.

PC9818 Street-Sweeping Program

A street-sweeping program is proposed east of Zion Road to help reduce the amount of potential pollutants entering the nearby streams and storm systems. The area is approximately 20 acres and is comprised of dense residential development. There is no existing stormwater quality treatment.

PC9819 Buffer Restoration

This project is adjacent to a stream running along the side of Zion Road, flowing north to south. The stream receives direct runoff from the road. A primary indicator is stream bank buffer deficiency in headwater riparian habitat. Restoring the stream buffer by increasing vegetation would improve the water quality of the stream by reducing running and filtering the pollutants.

PC9820 Street-Sweeping Program

A street-sweeping program is proposed east of Ox Road to help reduce the amount of potential pollutants entering the nearby streams and storm systems. The area is approximately 350 acres and is comprised of single-family residential development. There is no existing stormwater quality treatment. There are streams within the project area.

PC9825 Lake Management for W.Q. Study

This project is a study to determine the water quality benefits of dredging Lake Barton. The lakes are currently trapping sediment. One possible benefit of dredging includes an increased permanent pool volume (which will in turn trap more sediment). Other benefits include extending the lifespan of the lakes, and enhancing recreation. Other water quality benefits include removing shallow foraging areas which may decrease the numbers of waterfowl and associated fecal contamination; increased depth benefits thermal stratification which in turn benefits fisheries. If the lake is eutrophic, dredging may increase dissolved oxygen by decreasing biological oxygen demand (BOD) by removing organic sediment. Dredging may also remove phosphorus bound to these sediments, although this phosphorus is currently locked in place within the lake.

PC9828 Lake Management for W.Q. Study

This project is a study to determine the water quality benefits of dredging Woodglen Lake. The lakes are currently trapping sediment. One possible benefit of dredging includes an increased permanent pool volume (which will in turn trap more sediment). Other benefits include extending the lifespan of the lakes, and enhancing recreation. Other water quality benefits include removing shallow foraging areas which may decrease the numbers of waterfowl and associated fecal contamination; increased depth benefits thermal stratification which in turn benefits fisheries. If the lake is eutrophic, dredging may increase dissolved oxygen by decreasing biological oxygen demand (BOD) by removing organic sediment. Dredging may also remove

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

phosphorus bound to these sediments, although this phosphorus is currently locked in place within the lake.

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

Table 5-8: Project List - WMA (Pohick - Sideburn Branch)

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9127	Stormwater Pond Retrofit	PC-SI-0004	Next to 6000 Burke Centre Pkwy., near Terre Centre Elementary School	Water quality and quantity control	Private - Residential	0-10
PC9128	Stormwater Pond Retrofit	PC-SI-0006	6000 Burke Commons Rd., Wal-Mart Supercenter	Water quality and quantity control	Private - Residential	0-10
PC9129	Stormwater Pond Retrofit	PC-SI-0008	6000 Freds Oak Rd., Fairfax Co. Wastewater Collection	Water quality and quantity control	Public/Local - Fairfax County	0-10
PC9130	Stormwater Pond Retrofit	PC-SI-0001	10301 New Guinea Rd., Target shopping center	Water quality and quantity control	Private - Commercial	0-10
PC9131	Stormwater Pond Retrofit	PC-SI-0001	Behind 10268 Colony Park Dr.	Water quality and quantity control	Private - HOA	0-10
PC9139	Stormwater Pond Retrofit	PC-SI-0016	10697 Braddock Rd., University Mall Shopping Center	Water quality and quantity control	Private - Commercial	0-10
PC9236	Stream Restoration	PC-SI-0008	Across the street from 5901 Fred's Oak Rd.	Water quality control	Private - Residential	0-10
PC9237	Stream Restoration	PC-SI-0007	Behind 10550 Reeds Landing Ct.	Water quality control	Private - Residential	0-10
PC9239	Stream Restoration	PC-SI-0007	Next to 5914 Cove Landing Rd.	Water quality and quantity control	Private - Residential	0-10
PC9240	Stream Restoration	PC-SI-0009	Near 5901 Waters Edge Landing La.	Water quality control	Private - Residential	0-10
PC9241	Stream Restoration	PC-SI-0009	Behind 10734 Burr Oak Way	Water quality control	Private - Residential	0-10
PC9246	Stream Restoration	PC-SI-0005	Behind 6001 Burke Commons Rd.	Water quality control	Private - Residential	0-10
PC9247	Stream Restoration Suite	PC-SI-0005	10400 Premier Ct.	Water quality control	Private - Residential	0-10
PC9250	Stream Restoration	PC-SI-0010	Behind 10602 Goldeneye La.	Water quality control	Public/Local - FCPA, FCPS	0-10

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

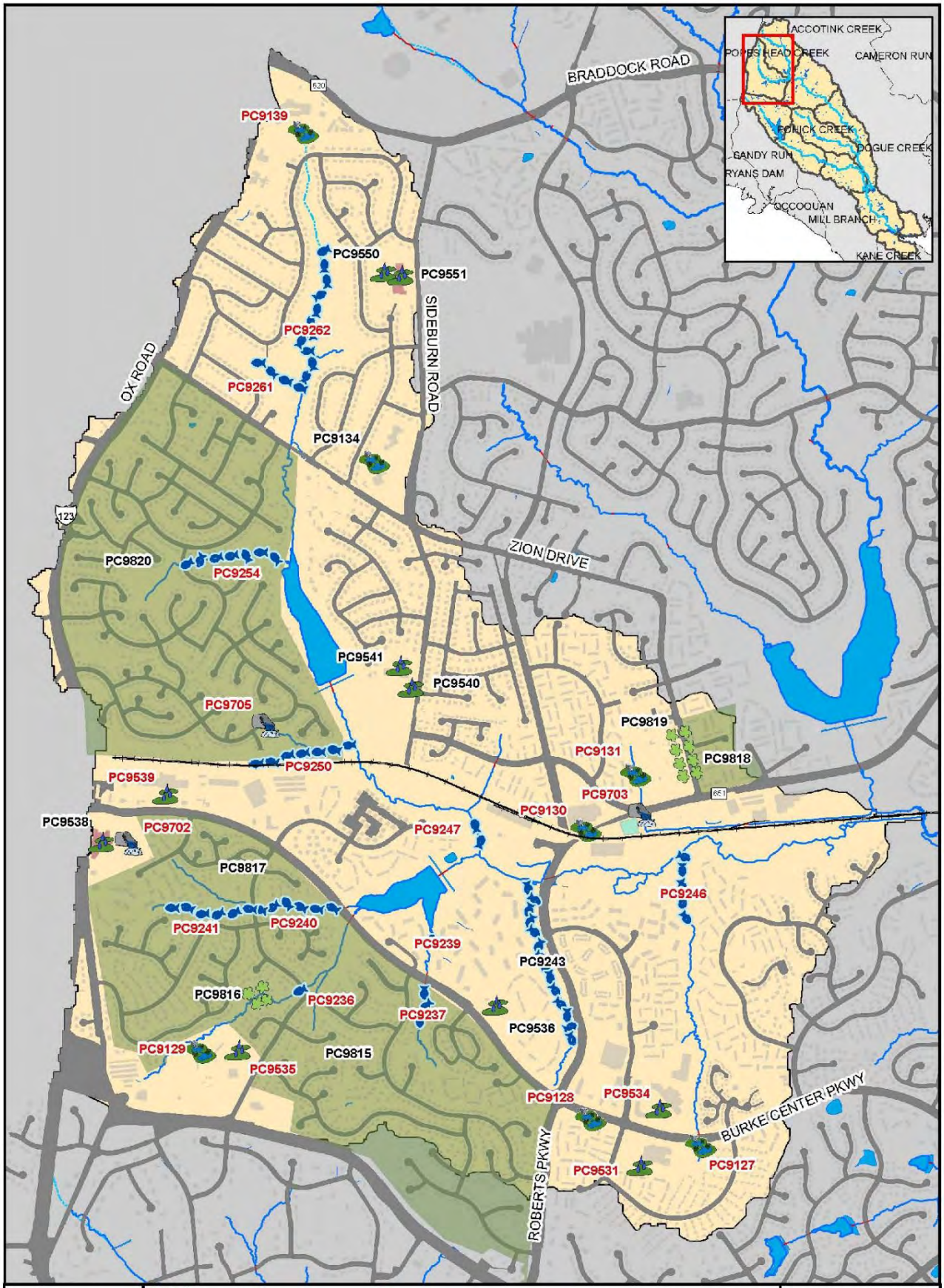
Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9254	Stream Restoration	PC-SI-0013	Behind 10757 John Turley Pl.	Water quality control	Public/Local - FCPA	0-10
PC9261	Stream Restoration	PC-SI-0015	Behind 5282 Beech Haven Ct.	Water quality control	Public/Local - FCPA	0-10
PC9262	Stream Restoration	PC-SI-0015	Behind 5214 Grinnell St.	Water quality control	Public/Local - FCPA	0-10
PC9531	BMP/LID Suite	PC-SI-0004	6000 Burke Centre Pkwy., Terra Centre Elementary School	Water quality and quantity control	Public/Local - FCPS	0-10
PC9534	BMP/LID	PC-SI-0003	6011 Burke Centre Pkwy., Giant Supermarket	Water quality control	Private - Commercial	0-10
PC9535	BMP/LID	PC-SI-0008	6000 Freds Oak Rd., FFC Wastewater Collection Division Office Bldg.	Water quality and quantity control	Public/Local - Fairfax County	0-10
PC9539	BMP/LID	PC-SI-0011	5727 Burke Center Pkwy., Burke Center Shopping Center	Water quality control	Private - Commercial	0-10
PC9702	Outfall Improvement	PC-SI-0009	5815 Ox Rd., Fairview Elementary	Water quality and quantity control	Public/Local - FCPS	0-10
PC9703	Outfall Improvement	PC-SI-0001	5637 Guinea Rd.	Water quality and quantity control	Private - Industrial	0-10
PC9705	Outfall Improvement	PC-SI-0011	Next to pool at 5601 Snowy Owl Dr.	Water quality and quantity control	Private - HOA	0-10
PC9134	Stormwater Pond Retrofit	PC-SI-0015	5222 Sideburn Rd., St. Mary's Church	Water quality and quantity control	Private - Church	11-25
PC9243	Stream Restoration	PC-SI-0005	Behind 5832 First Landing Way	Water quality control	Private - Residential	11-25
PC9536	BMP/LID Suite	PC-SI-0006	6001 Cove Landing Rd., Landings Community Center	Water quality and quantity control	Private - Residential	11-25
PC9540	BMP/LID Suite	PC-SI-0010	5240 Sideburn Rd., Bonnie Brae Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9550	BMP/LID Suite	PC-SI-0015	5004 Sideburn Rd., Oak View Elementary School	Water quality and quantity control	Public/Local - FCPS	11-25

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
PC9538	BMP/LID	PC-SI-0009	5815 Ox Rd., Fairview Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9541	BMP/LID	PC-SI-0012	5240 Sideburn Rd., Bonnie Brae Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9551	BMP/LID	PC-SI-0015	5004 Sideburn Rd., Oak View Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9815	Street Sweeping Program	PC-SI-0008	5907 Freds Oak Rd.	Water quality control	Public/State - VDOT
PC9816	Buffer Restoration	PC-SI-0008	Behind 10708 Freds Oak Ct.	Water quality control	Private - Residential
PC9817	Street Sweeping Program	PC-SI-0005	Condominiums at Cove Landing Rd.	Water quality control	Public/State - VDOT
PC9818	Street Sweeping Program	PC-SI-0001	5532 La Cross Ct.	Water quality control	Private - HOA
PC9819	Buffer Restoration	PC-SI-0001	South of 10125 Zion Dr.	Water quality control	Public/State - VDOT
PC9820	Street Sweeping Program	PC-SI-0011	10614 John Ayres Rd.	Water quality control	Public/State - VDOT
PC9825	Lake Management for W.Q. Study	PC-SI-0007	Lake Barton, Near 5738 Lakeside Oak Ln.	Water quality and quantity control	Public/Local - FCPA
PC9828	Lake Management for W.Q. Study	PC-SI-0012	Woodglen Lake, Behind 5502 Fireside Ct.	Water quality and quantity control	Public/Local - FCPA

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.


ACCOTINK CREEK
POHICK CREEK
CAMERON RUN
POHICK CREEK
DOGUE CREEK
SANDY RUN
RYANS DAM
OCCOQUAN
MILL BRANCH
KANE CREEK
BRADDOCK ROAD
SIDEBURN ROAD
OX ROAD
ZION DRIVE
ROBERTS PKWY
BURKE CENTER PKWY
PC9139
PC9550
PC9551
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Buffer Restoration
Stream Restoration
BMP/LID
Culvert Retrofit
Dumpsite/Obstruction Removal
New Stormwater Pond
Outfall Improvement
Stormwater Pond Retrofit
Other
Area-wide Drainage Improvement
Community Outreach/Public Education
Land Conservation Project
Flood Protection/Mitigation
Inspection/Enforcement Enhancement
Rain Barrel Program
Street Sweeping Program
Studies, Surveys and Assessments
Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.
Map 5.8
Pohick - Sideburn
WMA
Proposed Projects

5.9 Pohick – Upper Watershed Management Area

Upper Pohick Watershed Management Area has a total area of approximately 4.85 square miles and is comprised of 18 subwatersheds. It is bound to the north by Braddock Road, to the northeast by portions of Rolling Road, to the south by portions of Old Keene Mill Road and to the west by portions of Guinea Road. It is bisected from southwest to northeast by Burke Lake Road and from east to west by the rail line that carries the Virginia Railway Express (VRE) through portions of Northern Virginia.

The WMA has approximately 21.48 miles of stream, which flow from northwest to southeast. The area consists mainly of single-family detached residential homes, with some significant areas of multi-family residential development in established neighborhoods. Land cover consists primarily of impervious surface associated with residential development (i.e., rooftops, sidewalks and roadways) and landscaping, including managed turf. The area is approximately 29 percent impervious. Notable features include Lake Braddock, Lake Braddock Secondary School and the Rolling Valley Virginia Railway Express station.

In the Upper WMA the most prevalent stream condition problems noted include disturbed stream buffers and stream channel widening and erosion/incision. In addition, pipes and ditches discharge directly into the WMA's and have created impacts, including some severe impacts on the main stem of Pohick Creek. Upstream of Lake Braddock several road crossing impacts are noted, some severe. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.9.1 0-10 Year Structural Projects

PC9126 Stormwater Pond Retrofit

This project is proposed to retrofit an existing pond at White Oaks Elementary School to create an extended detention basin with a sediment forebay. The pond size will be increased and the outfall structure will be modified to increase the stormwater detention time. This will improve the stormwater runoff quality and quantity. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids.

PC9132 Stormwater Pond Retrofit

This project is proposed to retrofit the large pond behind Lakepointe Drive, by creating an extended detention dry pond with a sediment forebay. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of temporary ponding using a control structure, which enables particulate settlement.

PC9133 Stormwater Pond Retrofit

This project is proposed to retrofit an existing pond at Lake Braddock Secondary School to create an extended detention dry pond with a sediment forebay. The pond receives runoff from a fairly large impervious drainage area, including the school and adjacent residential area to the north. The pond will be retrofitted into an extended detention pond by modifying the existing discharge structure to increase the time stormwater remains in the pond. The pond size will be enlarged to handle the larger detention volume. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids.

PC9136 Stormwater Pond Retrofit

This project is proposed to retrofit an existing pond near Dahlgreen Place Playground. The existing pond will be modified to create an extended detention dry pond with a sediment forebay. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing control structure to increase the detention time of stormwater runoff. This will reduce downstream channel erosion and allow more time for particulate pollutants to settle out.

PC9227 Stream Restoration

A closed system collects runoff from Capella Avenue. and a large surrounding area, including residential development. The pipe outfalls into a stream east of Capella Drive. The stream is in a wooded area behind White Oaks Elementary School. Due to poor channel morphology, this project is proposed to daylight the outfall farther upstream to restore the water to its natural state before reaching the stream. Energy dissipation devices, which will consist of a series of reinforced step pools will be put in place to reduce velocity of water entering the stream.

PC9228 Stream Restoration Suite

Subproject A is a stream restoration of the stream west of Shiplett Boulevard and northwest of Glenbard Road, and is located on Fairfax County Park Authority land. This project is proposed to repair bank and bed erosion, restoring the channel morphology. Stream stabilization will reduce sediment loads to the stream while maintaining capacity of the channel and controlling unwanted meander. Subproject B is an obstruction removal in the stream north of Buffie Court and west of Orion Court. The obstruction was verified during a field visit. This project proposes to remove the obstructions blocking the stream channel to restore natural conditions. Removal of obstructions will help restore the function of the stream.

PC9230 Stream Restoration

The stream east of Wilmington Drive and north of Rand Drive has poor channel morphology. This project is proposed to repair bank and bed erosion to restore channel morphology. Erosion will be stabilized through the use of bank shaping, toe of slope protection, erosion control fabric and rapid native vegetation establishment. The stream stabilization will reduce sediment loads while maintaining the capacity of the stream and controlling unwanted meander.

PC9234 Stream Restoration

This project is proposed to repair bank and bed erosion, restoring channel morphology to a stream north of Nantick Road. The stream receives runoff from a residential neighborhood by direct runoff and from a closed system. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment. The primary indicator is poor stream stabilization.

PC9235 Stream Restoration

Two inlets collect runoff from Veranda Drive and pipe it to an adjacent stream to the east. Due to poor channel morphology, this project has been proposed to daylight the pipe farther upstream by creating an open channel and using an energy dissipation device. This device consists of a series of step pools reinforced with either rocks or logs. The daylighting will help reduce the velocity of the water entering the stream.

PC9242 Stream Restoration

This project is proposed to repair bank and bed erosion to a stream north of Burke Towne Court. The primary indicator is poor channel morphology. The stream receives runoff from adjacent residential neighborhood. The stream stabilization will reduce sediment loads while maintaining capacity of the stream and controlling unwanted meander. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

PC9245 Stream Restoration

This project is proposed to repair bank and bed erosion to restore channel morphology of the stream north of Burke Road. The primary indicator is poor channel morphology. The stream conveys runoff from adjacent single-family residential neighborhoods to the stream through closed systems or direct runoff. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

PC9249 Stream Restoration

This project is proposed on the stream northwest of Parliament Drive, and is located in the open space owned by Signal Hill Homes Association. This project is proposed to repair bank and bed erosion and restore channel morphology. The primary indicator is poor channel morphology. Stream stabilization will reduce sediment loads while maintaining capacity and controlling unwanted meander. Erosion will be stabilized through the use of bank shaping, toe of slope protection, erosion control fabric and rapid native vegetation establishment.

PC9251 Stream Restoration

This stream is located between Olley Lane and Winbourne Road. The stream conveys runoff from adjacent roads and single-family residential neighborhoods. The stream conveys runoff from both a closed system and sheet flow from roads and homes to the north, east and west. The banks of the existing stream are significantly eroded. This project is proposed to repair bank and bed erosion to restore channel morphology.

PC9252 Stream Restoration

This project is proposed to repair bank and bed erosion to restore channel morphology of the stream adjacent to Wallingford Drive. Stream stabilization will reduce sediment loads to the stream while maintaining the capacity and controlling unwanted meander. Erosion will be stabilized through the use of bank shaping, toe of slope protection, erosion control fabric and rapid native vegetation establishment.

PC9257 Stream Restoration

This project addresses restoration of a stream near Fairleigh Court, which receives runoff from closed storm systems that drain residential neighborhoods. The primary indicator is poor channel morphology. Stream stabilization will reduce sediment loads to the stream while maintaining stream capacity and controlling unwanted meander. The project will improve storm outfalls to the stream and daylight a portion of the storm system.

PC9258 Stream Restoration

This project is proposed to daylight a pipe from a residential neighborhood (Dahlgreen Place) farther upstream. The primary indicator is poor channel morphology. This project will return the water to its natural state. This will reduce the velocity at which stormwater enters the stream.

Additionally, the daylighting will provide more opportunity for the stormwater to infiltrate. This will help reduce runoff rates and stream erosion.

PC9525 BMP/LID

This project is proposed to incorporate BMP inlet inserts or manufactured BMP filtration systems to provide pollutant removal at Rolling Valley Mall north of Old Keene Mill Road. Typical inserts act as baskets that collect sediment and larger debris such as trash and leaves. Filters should be selected to target the known pollutants. The filters need to be cleaned on a routine basis, typically every 6 months. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. Filtration will capture and treat stormwater runoff from highly impervious areas before the stormwater enters the storm drain system.

PC9544 BMP/LID Suite

This suite of projects is the installation of bioswales at Lake Braddock Park near the game fields. The bioswales would receive sheet flow from the fields and would increase infilitration and reduce pollutants, such as excessive fertilizer, grass clippings or animal waste. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids.

PC9704 Outfall Improvement

This project is the construction of a new storage and treatment area below the outfall of a closed system from Lake Braddock Drive. The improvement will include an energy dissipation device and wetland plantings. The primary indicators include instream sediment. Outfall storage will reduce erosive velocities and sediment loads at the outfall and improve downstream habitats.

5.9.2 11-25 Year Structural Projects

PC9125 Stormwater Pond Retrofit

Large dry pond near intersection of Burke Lake Road and Wilmington Drive. This project proposes the retrofit on an existing public pond to create an extended detention dry pond with a sediment forebay. The primary indicators are nitrogen, phosphorus and total suspended solids. The retrofit will modify the existing pond to provide adequate downstream channel protection and allow for better function of temporary ponding by using a control structure. This also promotes the settlement of particulate pollutants.

PC9141 New Stormwater Pond

This project proposes creating a new dry extended detention basin just northeast of the Tilia Court cul-de-sac. This pond will provide water quality and quantity treatment for the west side of Lake Braddock Secondary School and will help reduce erosive velocity to the stream running behind Queen Victoria Court.

PC9232 Stream Restoration

This project proposes a stream restoration for stream west of Lincolnwood Ct. This stream receives sheet flow and runoff from a closed system from adjacent residential neighborhoods. The project proposes repairing bank and bed erosion and restoring channel morphology. Stream stabilization will reduce sediment loads, will maintain capacity of stream and control unwanted meander.

PC9233 Stream Restoration

Stream northwest of Burke Road. Due to poor channel morphology, this project proposes repairing bank and bed erosion while restoring channel morphology. Stream stabilization will reduce sediment loads while maintaining capacity of the stream and controlling unwanted meander.

PC9255 Stream Restoration

A closed system collects runoff from Wallingford Drive and Olley Lane and outfalls to a stream to the south. Due to poor downstream channel morphology, this project has been proposed to daylight pipe farther upstream to return water to its natural state. This will reduce runoff rates and minimize stream erosion.

PC9528 BMP/LID

This project proposes the construction of a bioswale at Burke Center School northeast of Lee Chapel Road. The primary indicators are pollutants including nitrogen, phosphorus and total suspended solids. The bioswale will capture sheet flow and create an ideal environment for filtration, biological uptake and microbial activity. It will reduce runoff volume and increase groundwater discharge. The drainage area for this proposed bioswale does not include much impervious area, which might not make this an ideal location.

PC9537 BMP/LID

This project proposes the creation of a bioretention landscaping feature to receive runoff from impervious areas near the VRE-Rolling Road Station. Primary indicators are pollutants such as nitrogen, phosphorus and total suspended solids. Bioretention will capture sheet flow from impervious areas and create an ideal environment for filtration, biological uptake and microbial activity. Location will not receive much impervious runoff, as the majority enters a closed system and outfalls to a nearby wooded area.

PC9542 BMP/LID Suite

The first subproject proposes installation of a bioswale to route runoff at Lake Braddock Secondary. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. Bioswales will capture sheet flow and create an ideal environment for filtration, biological uptake, and microbial activity, providing moderate pollutant removal. It will also reduce runoff volume and increase groundwater recharge. Area receives minimal runoff from impervious surfaces. The second project proposes the creation of a bioretention landscaping feature at Lake Braddock Secondary School that will receive runoff from the tennis courts and part of the track. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The bioretention feature will create an ideal environment for filtration, biological uptake and microbial activity. Area would have minimal impacts and disturbances.

PC9543 BMP/LID

This project proposes the replacement of existing pavement in parking stalls with pervious pavement or pavers at Lakeside Pool on Lake Braddock Drive. The site currently sheet flows into a wooded area and eventually into a large pond. The primary indicator is a large total impervious area. The pervious pavement will treat and reduce parking lot runoff using a semi-porous material that allows runoff to infiltrate then trap pollutants in the soil. It also promotes surface storage and a reduction in runoff volumes.

5.9.3 Non-Structural Projects

PC9527 BMP/LID

This project is a rain barrel/cistern at White Oaks Elementary School off Sideburn Road. This will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The cisterns can be used by students for hands-on educational programs.

PC9530 BMP/LID

The project is a rain barrel/cistern at Burke Center School northeast of Lee Chapel Road southeast of Burke Lake Road. This will capture, store and reuse runoff from the rooftop. The primary indicators are high impervious areas directly connected to the stormwater system. The rain barrels can be used by students for hands-on educational programs.

PC9811 Dumpsite/Obstruction Removal

The stream north of Rathlin Drive has an obstruction. The primary indicators are flood complains and the obstruction has been field verified as gabions in the stream channel. This project is proposed to remove obstructions blocking the stream channel to restore natural conditions. Removal of obstruction will reduce flood complaints and help restore the natural shape and function of the stream.

PC9814 Buffer Restoration

This project is proposed to re-plant a stream buffer to re-establish the RPA east of Bonnie Bern Court. Indicators are stream bank buffer deficiencies. Increased vegetation from buffer repair will provide additional filtration of pollutants and will reduce runoff by intercepting the water and increasing surface storage and infiltration.

PC9826 Lake Management for W.Q. Study

This project is a study to determine the water quality benefits of dredging Lake Braddock. The lakes are currently trapping sediment. One possible benefit of dredging includes an increased permanent pool volume (which will in turn trap more sediment). Other benefits include extending the lifespan of the lakes, and enhancing recreation. Other water quality benefits include removing shallow foraging areas which may decrease the numbers of waterfowl and associated fecal contamination; increased depth benefits thermal stratification which in turn benefits fisheries. If the lake is eutrophic, dredging may increase dissolved oxygen by decreasing biological oxygen demand (BOD) by removing organic sediment. Dredging may also remove phosphorus bound to these sediments, although this phosphorus is currently locked in place within the lake.

Table 5-9: Project List - WMA (Pohick - Upper Pohick)

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9126	Stormwater Pond Retrofit	PC-PC-0044	16130 Shiplett Blvd., White Oaks Elementary School	Water quality and quantity control	Public/Local - FCPS	0-10
PC9132	Stormwater Pond Retrofit	PC-PC-0055	Behind 9713 Lakepointe Dr.	Water quality and quantity control	Private - HOA	0-10
PC9133	Stormwater Pond Retrofit	PC-PC-0046	9200 Burke Lake Rd., Lake Braddock Secondary School	Water quality and quantity control	Public/Local - FCPS	0-10
PC9136	Stormwater Pond Retrofit	PC-PC-0054	Behind 5120 Dahlgreen Pl., Playground	Water quality and quantity control	Private - HOA	0-10
PC9227	Stream Restoration	PC-PC-0044	Behind 9500 Orion Ct.	Water quality and quantity control	Public/Local - FCPS	0-10
PC9228	Stream Restoration Suite	PC-PC-0044	Behind 6300 Glenbard Rd.	Water quality control	Public/Local - FCPA, FCPS, Private - HOA	0-10
PC9230	Stream Restoration	PC-PC-0050	Behind 9820 Rand Dr.	Water quality control	Private - Residential	0-10
PC9234	Stream Restoration	PC-PC-0049	Behind 9840 Natick Rd.	Water quality control	Private - Residential	0-10
PC9235	Stream Restoration	PC-PC-0041	Behind 5913 Veranda Dr.	Water quality and quantity control	Private - HOA	0-10
PC9242	Stream Restoration	PC-PC-0049	Behind 5753 Burke Towne Ct.	Water quality control	Public/Local - FCPA	0-10
PC9245	Stream Restoration	PC-PC-0042	5621 Herbert's Crossing Dr.	Water quality control	Private - HOA, Public/State - VDOT	0-10
PC9249	Stream Restoration	PC-PC-0046	Behind 5565 Queen Victoria Ct.	Water quality control	Private - HOA	0-10
PC9251	Stream Restoration	PC-PC-0053	Behind 9313 Winbourne Rd.	Water quality control	Private - HOA	0-10
PC9252	Stream Restoration	PC-PC-0052	Next to 9535 Wallingford Dr.	Water quality control	Private - HOA	0-10
PC9257	Stream Restoration	PC-PC-0054	Next to 9404 Fairleigh Ct.	Water quality control	Private - HOA	0-10

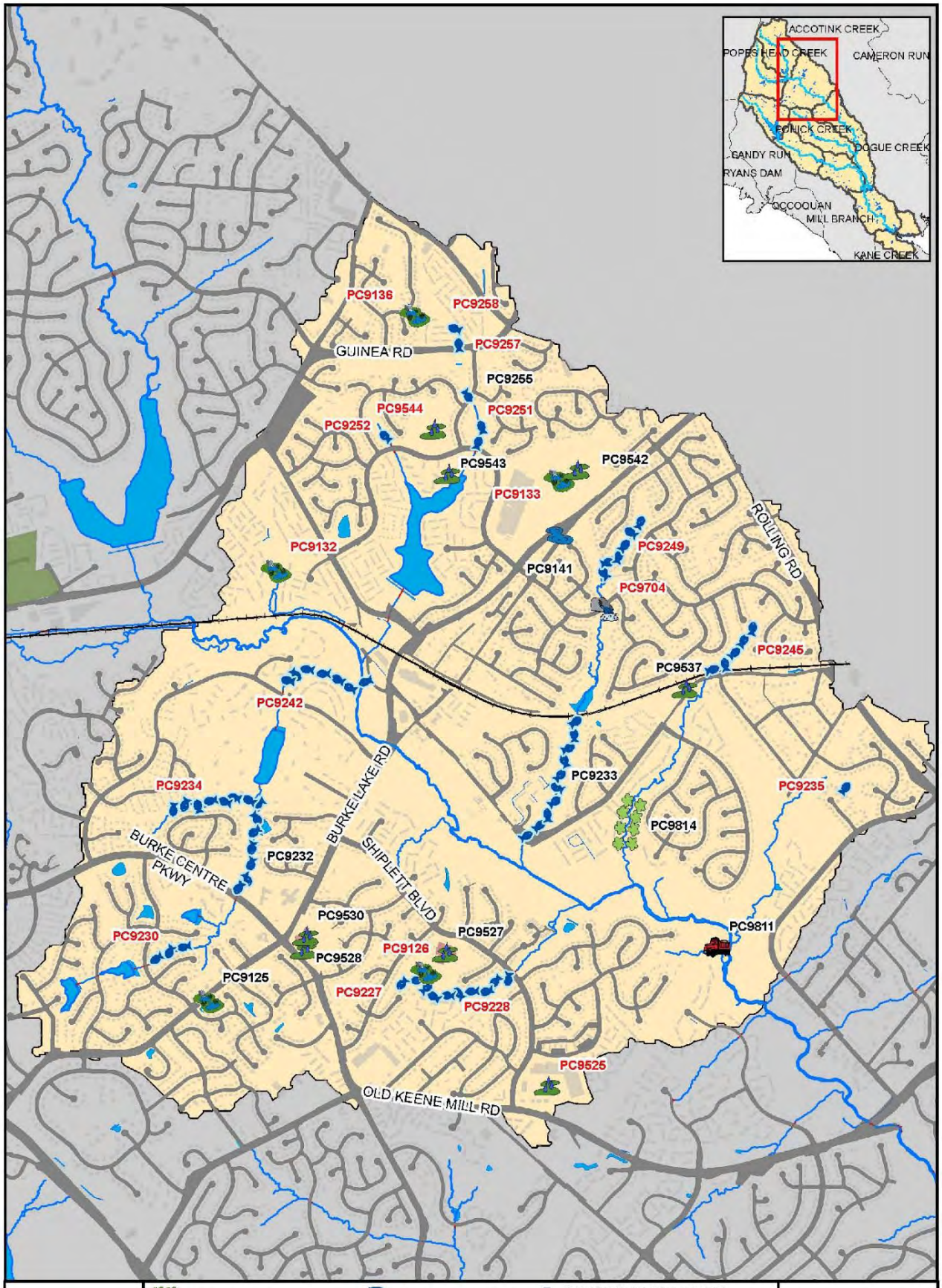
[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9258	Stream Restoration	PC-PC-0054	Next to 5101 Dahlgreen Pl.	Water quality and quantity control	Private - HOA	0-10
PC9525	BMP/LID	PC-PC-0039	9230 Old Keene Mill Rd., Rolling Valley Mall	Water quality control	Private - Commercial	0-10
PC9544	BMP/LID Suite	PC-PC-0053	9450 Lake Braddock Dr., Lake Braddock Park	Water quality and quantity control	Public/Local - FCPA	0-10
PC9704	Outfall Improvement	PC-PC-0046	Next to 9199 Lake Braddock Dr.	Water quality and quantity control	Private - HOA	0-10
PC9125	Stormwater Pond Retrofit	PC-PC-0050	Behind 6301 Wilmington Dr.	Water quality and quantity control	Private - HOA	11-25
PC9141	New Stormwater Pond	PC-PC-0046	Behind 5550 Queen Victoria Ct.	Water quality and quantity control	Public/State - VDOT	11-25
PC9232	Stream Restoration	PC-PC-0049	Behind 9623 Woodedge Dr.	Water quality control	Private - Residential	11-25
PC9233	Stream Restoration	PC-PC-0045	Near intersection of Burke Rd. and Heritage Square Rd.	Water quality control	Private - HOA, Public/State - VDOT	11-25
PC9255	Stream Restoration	PC-PC-0053	Behind 5208 Olley La.	Water quality and quantity control	Private - HOA	11-25
PC9528	BMP/LID	PC-PC-0049	9654 Burke Lake Rd., Burke Center School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9537	BMP/LID	PC-PC-0040	9016 Burke Rd., VA Railway Exp. - Rolling Rd. Station	Water quality and quantity control	Public/Local - FCPS	11-25
PC9542	BMP/LID Suite	PC-PC-0046	9200 Burke Lake Rd., Lake Braddock Secondary School	Water quality and quantity control	Public/Local - FCPS	11-25
PC9543	BMP/LID	PC-PC-0051	9333 Lake Braddock Rd., Lakeside Pool - Lake Braddock C.A.	Water quality and quantity control	Private - HOA	11-25

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
PC9527	BMP/LID	PC-PC-0044	16130 Shiplett Blvd., White Oaks Elementary School	Water quality and quantity control	Public/Local - FCPS
PC9530	BMP/LID	PC-PC-0049	9645 Burke Lake Rd., Burke Center School	Water quality and quantity control	Public/Local - FCPS
PC9811	Dumpsite/ Obstruction Removal	PC-PC-0039	Near 6223 Rathlin Dr.	Water quality control	Public/Local - FCPA
PC9814	Buffer Restoration	PC-PC-0040	Behind 6025 Bonnie Bern Ct.	Water quality control	Private - HOA
PC9826	Lake Management for W.Q. Study	PC-PC-0051	Lake Braddock, Near 9408 Odyssey Ct.	Water quality and quantity control	Private - HOA

[1] **Only 10-yr structural projects will have associated project fact sheets at the end of section 5.**


ACCOTINK CREEK
POPES HEAD CREEK
CAMERON RUN
POHICK CREEK
DOGUE CREEK
SANDY RUN
RYANS DAM
OCCOQUAN
MILL BRANCH
KANE CREEK
PC9136
PC9258
GUINEA RD
PC9257
PC9255
PC9544
PC9251
PC9252
PC9543
PC9542
PC9133
PC9132
PC9249
ROLLING RD
PC9141
PC9704
PC9245
PC9537
PC9242
BURKE LAKE RD
PC9233
PC9234
PC9235
PC9814
BURKE CENTRE PKWY
PC9232
SHIPLETT BLVD
PC9530
PC9527
PC9811
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PC9525
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Buffer Restoration
Stream Restoration
BMP/LID
Culvert Retrofit
Dumpsite/Obstruction Removal
New Stormwater Pond
Outfall Improvement
Stormwater Pond Retrofit
Other
Area-wide Drainage Improvement
Community Outreach/Public Education
Land Conservation Project
Flood Protection/Mitigation
Inspection/Enforcement Enhancement
Rain Barrel Program
Street Sweeping Program
Studies, Surveys and Assessments
Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.
Map 5.9
Pohick - Upper WMA
Proposed Projects

5.10 Pohick – Upper South Run Watershed Management Area

Upper South Run Watershed Management Area has a total area of approximately 3.19 square miles and is comprised of 11 subwatersheds. It is located in the western part of the Pohick Creek Watershed. It is roughly bounded on the west and south by Ox Road and to the north by Fairfax County Parkway.

The WMA has approximately 12.90 miles of stream, which primarily flow from north to south, ultimately reaching Burke Lake. Burke Lake accounts for approximately 10 percent of the surface area of the WMA. The area consists mainly of single-family residential homes. Land cover consists primarily of impervious surfaces related to residential development (i.e., rooftops, sidewalks and roadways) and landscaping, including managed turf. The area is 11 percent impervious. Notable features of the WMA are Burke Lake Park (including golf course), approximately two miles of Fairfax County Parkway and the Fairfax Baptist Temple and Academy.

In the Upper WMA the most prevalent stream condition features noted include disturbed stream buffers and stream channel widening and erosion/incision. In addition, pipes and ditches discharging into the WMA's streams have demonstrated impacts, including some severe impacts on the main stem of Pohick Creek. These pipes and ditches discharge stormwater runoff directly into the streams in many instances, contributing to the observed widening and erosion conditions. Descriptions of the proposed projects for this WMA follow. Also, a list of all the projects proposed and a map of this WMA are provided. Project Fact Sheets for this WMA are located in Section 5.11.

5.10.1 0-10 Year Structural Projects

PC9003 Stormwater Pond Retrofit

This project is an alternative to the regional pond P-03. Regional pond P-03 was never constructed. Instead a smaller neighborhood pond (0922DP) was built near the site of the proposed regional pond. This project proposes retrofitting this existing pond which is north of Fairfax County Parkway and south of Lake Meadow Drive, into a constructed wetland system with a sediment forebay and bench planting. This pond is upstream of another pond, and is located across Lake Meadow Drive. The primary problem indicators are poor wetland habitat and pollutants, including nitrogen, phosphorus and total suspended solids.

PC9004 Stream Restoration Suite

This project suite is a proposed alternative to Regional Pond P-04, which was never constructed and was proposed upstream (northwest) of Burke Lake. Subproject A is the stabilization of the stream northwest of Burke Lake. The main indicator is poor channel morphology. This project proposes repairing bank and bed erosion to restore channel morphology. The stream stabilization will reduce sediment loads to Burke Lake maintaining the capacity of the stream and controlling unwanted meander. This project is critical due to its impact on Burke Lake. Subproject B proposes removing an obstruction farther upstream of Burke Lake. This obstruction was verified during field verification. Removing the obstruction will help restore the stream channel to its natural conditions and improve the function of the stream. Due to the proximity of the pond, removing obstruction could improve overall condition of the pond.

PC9007 Stormwater Pond Retrofit

This project proposes retrofitting an existing neighborhood pond (0956DP) as an alternative to Regional Pond P-07, which was not constructed. The existing neighborhood pond is upstream

of where Regional Pond P-04 was originally proposed. The pond is northeast of Fairfax County Parkway and receives runoff from adjacent neighborhoods. This project proposes to retrofit the pond to create a wetland system with a sediment forebay and bench planting. The sediment forebay will provide pretreatment of stormwater runoff and the bench planting will increase pollutant removal. The primary indicators are wetland habitat and pollutants, including nitrogen, phosphorus and total suspended solids.

PC9008 Stormwater Pond Retrofit

This project is a proposed supplement to the existing Regional Pond P-05 (0525DP) and will retrofit the pond into an extended detention dry pond with sediment forebays and additional planting. The pond is located southeast of Rice Field Place. The primary indicators are wetland habitat and pollutants, including nitrogen, phosphorus and total suspended solids. The pond collects runoff from a large drainage area that is mostly single-family residential development and roadways. Three separate systems outfall into the pond. All outfalls will have a forebay installed to collect coarse sediments and debris. The pond outfalls into a stream at the south end.

PC9121 Stormwater Pond Retrofit

This project is proposed to retrofit an existing pond northeast of Fairfax County Parkway at Burke Community Church. The project will create a wetland system with construction of a sediment forebay and the addition of low marsh and high marsh plantings. The primary indicators are wetland habitat and pollutants, including nitrogen, phosphorus and total suspended solids. The pond receives runoff from the church and parking lot. The retrofit will modify the existing pond to increase pollutant removal and to provide adequate channel protection. The retrofit will create a better functioning environment for gravitational settling, biological uptake and microbial activity.

PC9124 Stormwater Pond Retrofit

This project is proposed to retrofit two connecting ponds at Fairfax Baptist Temple Academy to create an extended detention dry pond with sediment forebays. The retrofit will install sediment forebays on the inflow pipes, remove the pilot channels, add an aquatic bench with an engineered landscaping plan and modify the outlet structure to increase the stormwater treatment time. The primary indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The pond is bisected by an access road. A pipe goes under the access road to connect the two ponds.

PC9223 Stream Restoration

This stream outfalls into a pond northeast of Lake Meadow Drive. It collects runoff by sheetflow from an adjacent single-family housing development. The primary indicator is poor channel morphology. The project proposes repairing bank and bed erosion, thereby restoring channel morphology. Erosion will be stabilized through the use of bank shaping, toe protection, erosion control fabrics and rapid native vegetation establishment.

5.10.2 11-25 Year Structural Projects

PC9001 Stormwater Pond Retrofit Suite

This project suite is a supplement to the large regional wet pond P-01 southeast of Pohick Court. Subproject A involves retrofitting the existing pond to increase pollutant removal and to provide adequate channel protection above the permanent pool. The retrofit will create a better

functioning environment for gravitational settling, biological uptake and microbial activity by creating a wetland system with the construction of a sediment forebay and the addition of bench planting. The pond receives stormwater from Pohick Court closed system and a stream. Subproject B is a retrofit of this stream. The primary indicator was the poor channel morphology. The project proposes repairing bank and bed erosion to restore channel morphology. The stream stabilization will reduce sediment loads to the stream and pond, maintaining capacity of the stream channel and controlling unwanted meander. This project will improve the overall condition of the pond by restoring the stream that flows into it.

PC9219 Stream Restoration

Stream running parallel to Old Keene mill Road to the northwest. Stream feeds directly into Burke Lake. The primary indicator is the poor channel morphology. This project proposes repairing bank and bed erosion, restoring channel morphology. Stream stabilization will reduce sediment while maintaining the capacity and controlling unwanted meander of the stream. This project is critical because of its proximity to Burke Lake.

PC9220 Stream Restoration

Stream running north of Burke Lake Road. Receives runoff from adjacent residential neighborhoods. This project proposes repairing bank and bed erosion to restore poor channel morphology. Stream stabilization will reduce sediment loads while maintaining capacity and controlling unwanted meander. Stream will eventually outfall into Burke Lake. Improving upstream conditions will have a positive affect on the lake.

PC9221 Stream Restoration

Stream located northeast of Hillside Road. Stream receives stormwater runoff as sheet flow from adjacent neighborhoods and three closed systems from the Red Fox Estates neighborhood. Stream restoration proposes repairing bank and bed erosion to restore channel morphology. Primary indicator is poor channel morphology. The stream stabilization will reduce sediment loads while maintaining capacity of the stream and controlling unwanted meander.

PC9224 Stream Restoration

This project proposes restoration of the stream northeast of Hillside Road and will consist of repairing bank and bed erosion. The primary indicator is poor channel morphology. Stream receives runoff from sheet flow and closed systems from adjacent residential neighborhoods. Stream stabilization will reduce sediment loads to the stream while maintaining capacity and controlling unwanted meander.

PC9526 BMP/LID

Bioswale proposed at the Fairfax Baptist Temple Academy. Area proposed at foot of soccer field. Indicators are pollutants, including nitrogen, phosphorus and total suspended solids. The bioswale will capture sheet flow and create an ideal environment for filtration, biological uptake and microbial activity. Will also contribute to reduced runoff volumes and increase groundwater recharge.

5.10.3 Non-Structural Projects

No projects are proposed.

Table 5-10: Project List - WMA (Pohick - Upper South Run)

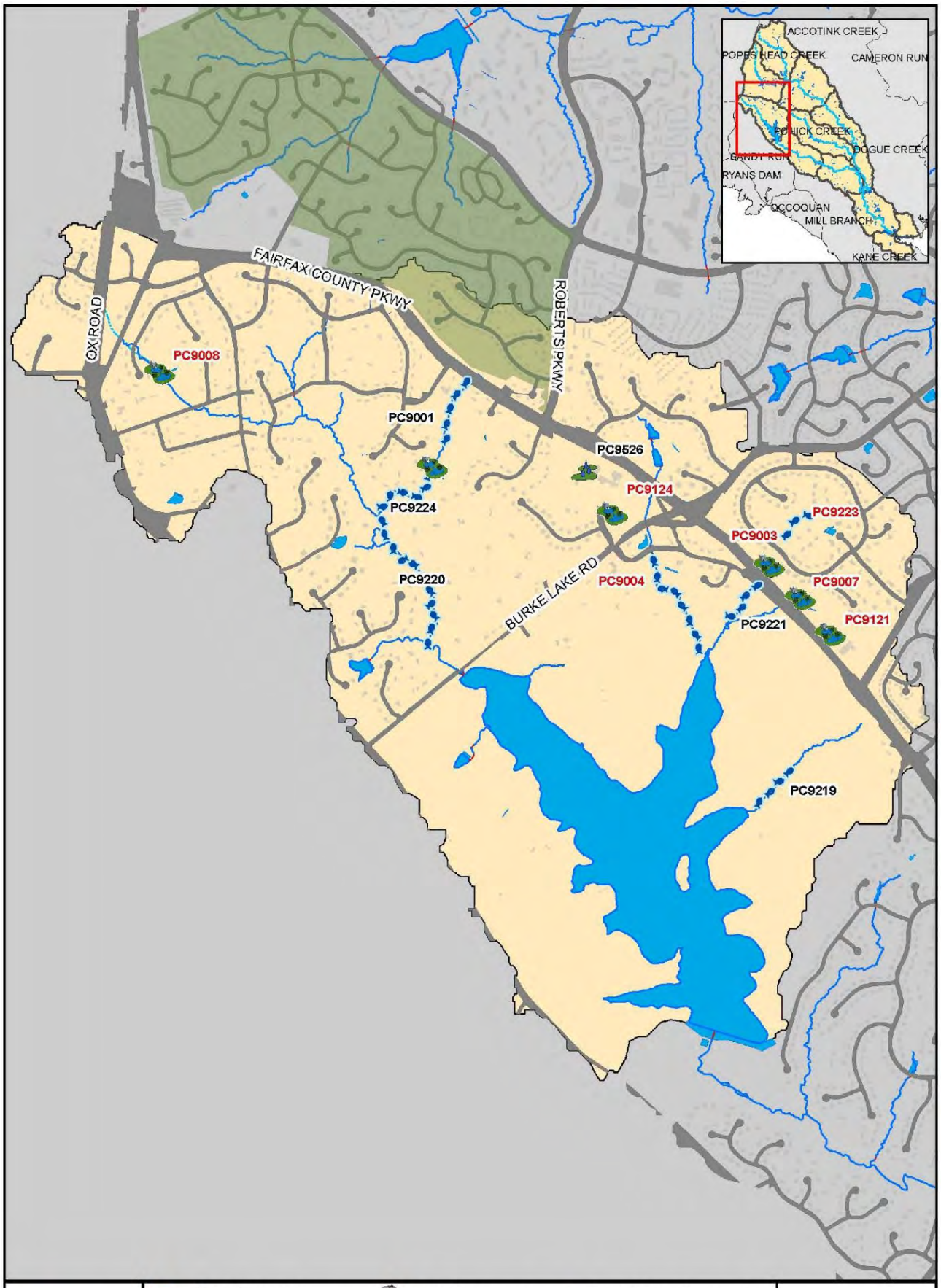
Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9003	Regional Pond Alternative/Stormwater Pond Retrofit	PC-SR-0022	Next to 6424 Lake Meadow Dr.	Water quality and quantity control	Private - HOA	0-10
PC9004	Regional Pond Alternative/Stormwater Pond Retrofit Suite	PC-SR-0020	10125 Lakehaven Ct.	Water quality control	Public/Local - FCPA	0-10
PC9007	Regional Pond Alternative/Stormwater Pond Retrofit	PC-SR-0020	Behind 6416 Lake Meadow Dr.	Water quality and quantity control	Private - HOA	0-10
PC9008	Regional Pond Alternative/Stormwater Pond Retrofit	PC-SR-0026	Next to 10995 Rice Field Pl.	Water quality and quantity control	Private - Residential	0-10
PC9121	Stormwater Pond Retrofit	PC-SR-0020	9900 Old Keene Mill Rd. , Burke Community Church	Water quality and quantity control	Private - Church	0-10
PC9124	Stormwater Pond Retrofit	PC-OS-0001	6401 Missionary La., Fairfax Baptist Temple Academy	Water quality and quantity control	Private - Church	0-10
PC9223	Stream Restoration	PC-SR-0022	Between Waterside Dr. & Burke Woods Dr.	Water quality control	Private - HOA	0-10
PC9001	Regional Pond Alternative/Stormwater Pond Retrofit	PC-SR-0024	Across from 10503 Pohick Ct., Church of Latter Day Saints	Water quality and quantity control	Public/Local - FCPA, Private - Residential, Private - HOA	11-25
PC9219	Stream Restoration	PC-SR-0017	Northwest of Old Keene Mill Rd. & Fairfax Co. Pkwy.	Water quality control	Public/State - Game and Inland Fisheries Commission	11-25

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.

Structural Projects[1]						
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**	**Phase**
PC9220	Stream Restoration	PC-SR-0023	Behind 6803 Jeremiah Ct.	Water quality control	Public/Local - FCPA, Private - Residential	11-25
PC9221	Stream Restoration	PC-SR-0020	Along Fairfax County Pkwy. behind Deckhand Dr.	Water quality control	Private - Residential Conservation	11-25
PC9224	Stream Restoration	PC-SR-0023	East of Ox Croft Ct.	Water quality control	Public/Local - FCPA, Private - Residential	11-25
PC9526	BMP/LID	PC-OS-0001	6401 Missionary La., Fairfax Baptist Temple Academy	Water quality and quantity control	Private - Church	11-25

Non-Structural Projects[1]					
Project #	**Project Type**	**Subwatershed**	**Location**	**Watershed Benefit**	**Land Owner**
N/A	No projects	N/A	N/A	N/A	N/A

[1] Only 10-yr structural projects will have associated project fact sheets at the end of section 5.


ACCOTINK CREEK
POPES HEAD CREEK
CAMERON RUN
POHICK CREEK
DOGUE CREEK
GANDY RUN
RYANS DAM
OCCOQUAN
MILL BRANCH
KANE CREEK
FAIRFAX COUNTY PKWY
OX ROAD
ROBERTS PKWY
BURKE LAKE RD
PC9008
PC9001
PC9526
PC9124
PC9224
PC9223
PC9003
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PC9007
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Miles
Stream Restoration
BMP/LID
Culvert Retrofit
Dumpsite/Obstruction Removal
New Stormwater Pond
Outfall Improvement
Stormwater Pond Retrofit
Other
Area-wide Drainage Improvement
Community Outreach/Public Education
Land Conservation Project
Flood Protection/Mitigation
Inspection/Enforcement Enhancement
Rain Barrel Program
Street Sweeping Program
Studies, Surveys and Assessments
Implementation timeframe denoted by project label color. Red = 0-10 years Black = 11-25 years.
Map 5.10
Pohick - Upper South Run WMA
Proposed Projects

5.11 Pohick Creek – Project Fact Sheets

Project fact sheets for each 10-yr structural project included in the Pohick Creek Watershed Management Plan are included in this section. Individual project fact sheets are comprised of the following information:

- Address / Location
- Land owner
- PIN (Tax map and parcel info)
- Control type (Water quality control, water quantity control, or both)
- Drainage area
- Receiving waters
- Description of proposed project
- Aerial view and sketch of proposed project
- Project Benefits
- Project Design Considerations
- Project Costs
- Site photos (existing conditions)

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