

Project: TR9104 BMP Retrofit Project



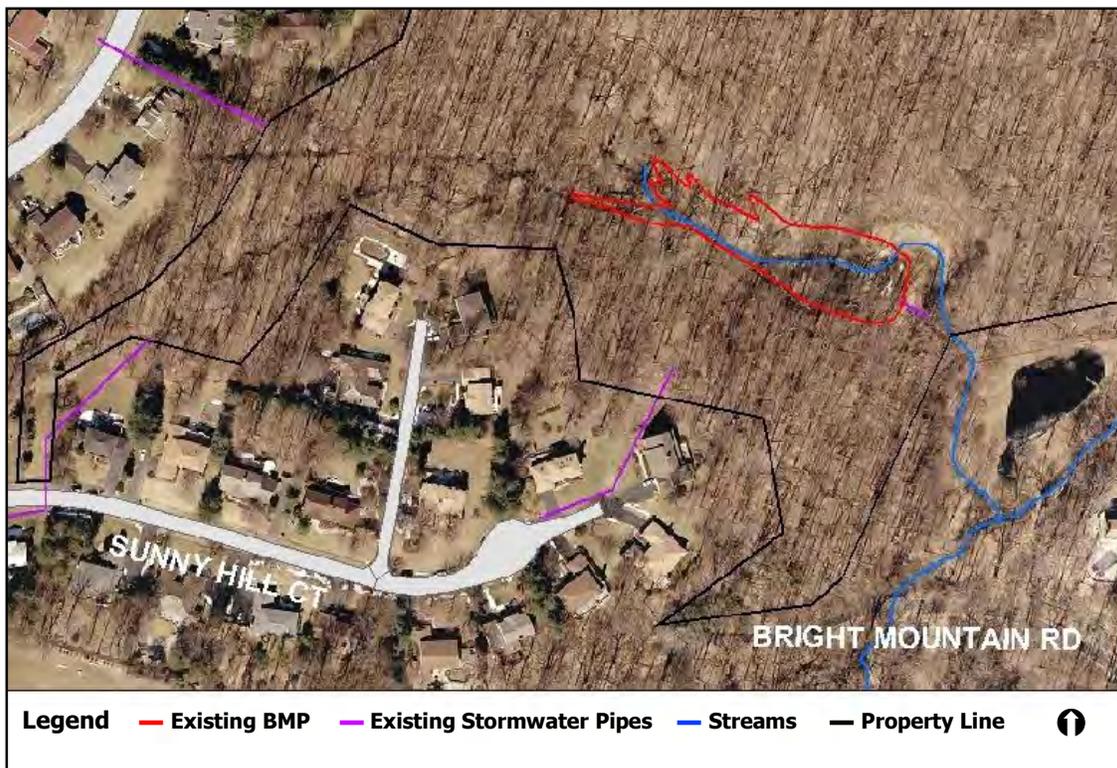
Vicinity Map

Address: Near 6500 Sunny Hill Court
Location: Langley Oaks Park
Land Owner: Fairfax County Park Authority
PIN: 0223 04 A
County Facility ID: 0065DP
Control Type: Water Quantity
Drainage Area: 53.6 acres
Stream Name: Unnamed tributary to Turkey Run

Description: There is some stream erosion downstream of this site as well as poor habitat. The existing dry pond was designed to provide water quantity control only. Retrofit the pond by modifying the riser structure to detain a portion of the one-year storm event, adding a shallow wetland, and planting buffer vegetation.

Potential Benefits: An estimated 17.4 lbs/yr of phosphorus will be removed and 0.2 acres of wetland habitat will be provided. Approximately 87 percent of the runoff from the one-year storm event will be stored to control the peak flow and help reduce erosion in the downstream channel.

Project Design Considerations: Stream Restoration Project TR9203 is immediately downstream of the facility. Coordination and sequencing of these projects should be considered. There are minimal environmental permitting requirements for this project. The facility can be reached by a dirt road accessible from Bright Mountain Road. An easement will not be required. Impacts to trees will be minimized.



Project Area Map



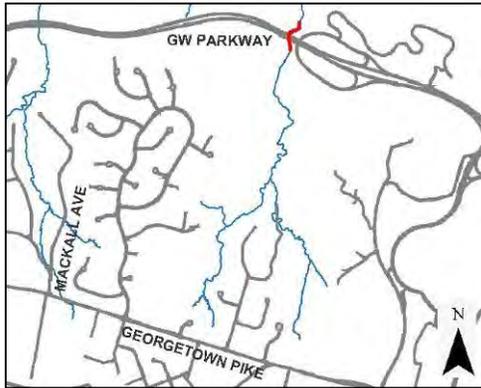
Site Photo: Facing east towards pond outlet

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Structural BMP Retrofit and Incidentals	1	LS	\$11,000.00	\$11,000.00
Grading and Excavation	2,330	CY	\$35.00	\$81,550.00
Shallow Wetland	880	SY	\$2.00	\$1,760.00
Erosion and Sediment Control	1	LS	\$3,000.00	\$3,000.00
Landscaping	1	LS	\$2,000.00	\$2,000.00
			Base Construction Cost	\$99,310.00
			Mobilization (5%)	\$4,965.50
			Subtotal 1	\$104,275.50
			Contingency (25%)	\$26,068.88
			Subtotal 2	\$130,344.38
			Engineering Design, Surveys, Land Acquisition, Utility Relocations, and Permits (45%)	\$58,654.97
			Estimated Project Cost	\$190,000.00

Project Status: The embankment for this pond has been identified as needing repair under the county's Dam Safety Program. Project FX4000-TR0001 will address the repair and is currently in the design phase. Water quality elements may be added to the pond as part of the project.

Project: TR9201 Stream Restoration Project



Location: Turkey Run Recreation Area
Land Owner: National Park Service
Tax Map: 22-1
Potential Length: 650 linear feet
Stream Name: Turkey Run

Description: Evaluate the section of Turkey Run flowing under the George Washington Parkway to determine where stream restoration is necessary. The stream is eroding at the bridge and downstream of the bridge.

Potential Benefits: Provide habitat, filters pollutants, and minimizes of stream banks.

Vicinity Map

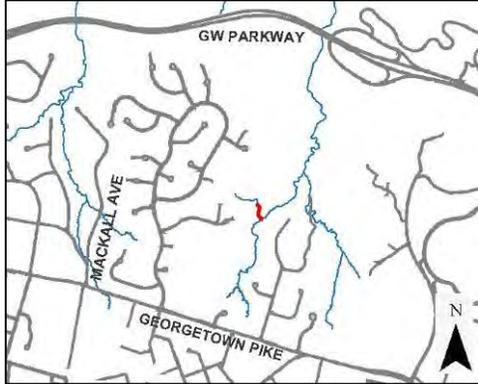
Project Design Considerations: The project is in the Chesapeake Bay Resource Protection Area and a small portion of the project is in a floodplain. Both areas have special permitting requirements. The project may require some clearing of trees and may have impacts to jurisdictional wetlands. An easement will not be required.



Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Reconstruct New Pattern and Profile	150	LF	\$250.00	\$37,500.00
First 500 Linear Feet	500	LF	\$450.00	\$225,000.00
		Base Construction Cost		\$262,500.00
		Mobilization (5%)		\$13,125.00
		Subtotal 1		\$275,625.00
		Contingency (25%)		\$68,906.25
		Subtotal 2		\$344,531.25
Engineering Design, Surveys, Land Acquisition, Utility Relocations, and Permits (45%)				\$155,039.06
		Estimated Project Cost		\$500,000.00

Project: TR9203 Stream Restoration Project



Vicinity Map

Location: Langley Oaks Park
Land Owner: Fairfax County Park Authority
Tax Map: 22-3
Potential Length: 300 linear feet
Stream Name: Unnamed tributary to Turkey Run

Description: Evaluate a portion of a tributary to Turkey Run in Langley Oaks Park to determine where stream restoration is necessary. The stream is channelized and has poor habitat.

Potential Benefits: Provide habitat, filters pollutants, and minimizes of stream banks.

Project Design Considerations: BMP Retrofit Project TR9104 is immediately upstream of this restoration project.

Coordination and sequencing of these projects should be considered. A portion of the project is in the Chesapeake Bay Resource Protection Area which has special permitting requirements. The project may require some clearing of trees and may have impacts to jurisdictional wetlands. An easement will not be required.



Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
First 500 Linear Feet	300	LF	\$450.00	\$135,000.00
			Base Construction Cost	\$135,000.00
			Mobilization (5%)	\$6,750.00
			Subtotal 1	\$141,750.00
			Contingency (25%)	\$35,437.50
			Subtotal 2	\$177,187.50
Engineering Design, Surveys, Land Acquisition, Utility Relocations, and Permits (45%)				\$79,734.38
			Estimated Project Cost	\$260,000.00

Project: TR9206 Stream Restoration Project



Vicinity Map

Location:	Langley Fork Park
Land Owner:	National Park Service and Private
Tax Map:	Residential
Potential Length:	22-3
Potential Length:	4,600 linear feet
Stream Name:	Unnamed tributaries to Turkey Run

Description: Evaluate two tributaries to Turkey Run to determine where stream restoration is necessary. The locations to be assessed are primarily in Langley Fork Park, east of Turkey Run Road. There is some stream bank erosion in this area.

Potential Benefits: Provide habitat, filters pollutants, and minimizes of stream banks.

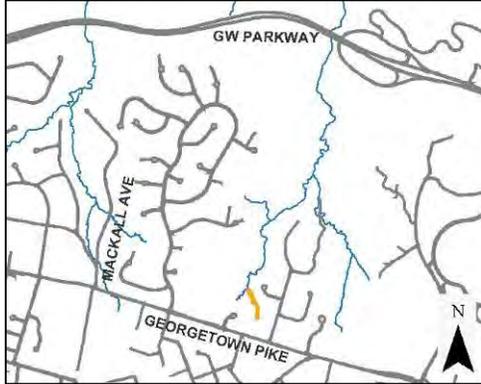
Project Design Considerations: Portions of this project are in the Chesapeake Bay Resource Protection Area which has special permitting requirements. The project may require some clearing of trees and may have impacts to jurisdictional wetlands. Easements will be required.



Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Reconstruct New Pattern and Profile	4,100	LF	\$250.00	\$1,025,000.00
First 500 Linear Feet	500	LF	\$450.00	\$225,000.00
		Base Construction Cost		\$1,250,000.00
		Mobilization (5%)		\$62,500.00
		Subtotal 1		\$1,312,500.00
		Contingency (25%)		\$328,125.00
		Subtotal 2		\$1,640,625.00
Engineering Design, Surveys, Land Acquisition, Utility Relocations, and Permits (45%)				\$738,281.25
		Estimated Project Cost		\$2,380,000.00

Project: TR9308 Buffer Restoration Project



Vicinity Map

Location: Near Kedleston Court
Land Owner: Fairfax County Public Schools and Private Residential
Tax Map: 22-3
Potential Length: 800 linear feet
Stream Name: Turkey Run

Description: Evaluate the buffer vegetation adjacent to Turkey Run west of Turkey Run Road and determine the locations where buffer restoration is necessary.

Potential Benefits: Provide habitat, filters pollutants, and minimizes of stream banks.

Project Design Considerations: This project is in the Chesapeake Bay Resource Protection Area, which has special permitting requirements. The project may require some clearing of trees and may have impacts to jurisdictional wetlands. Easements will be required.



Legend — Streams — Buffer Restoration ⓘ

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Buffer Restoration	800	LF	\$25.00	\$20,000.00
			Base Construction Cost	\$20,000.00
			Mobilization (5%)	\$1,000.00
			Subtotal 1	\$21,000.00
			Contingency (25%)	\$5,250.00
			Subtotal 2	\$26,250.00
Engineering Design, Surveys, Land Acquisition, Utility Relocations, and Permits (45%)				\$11,812.50
			Estimated Project Cost	\$40,000.00

Project: TR9807 New LID Project



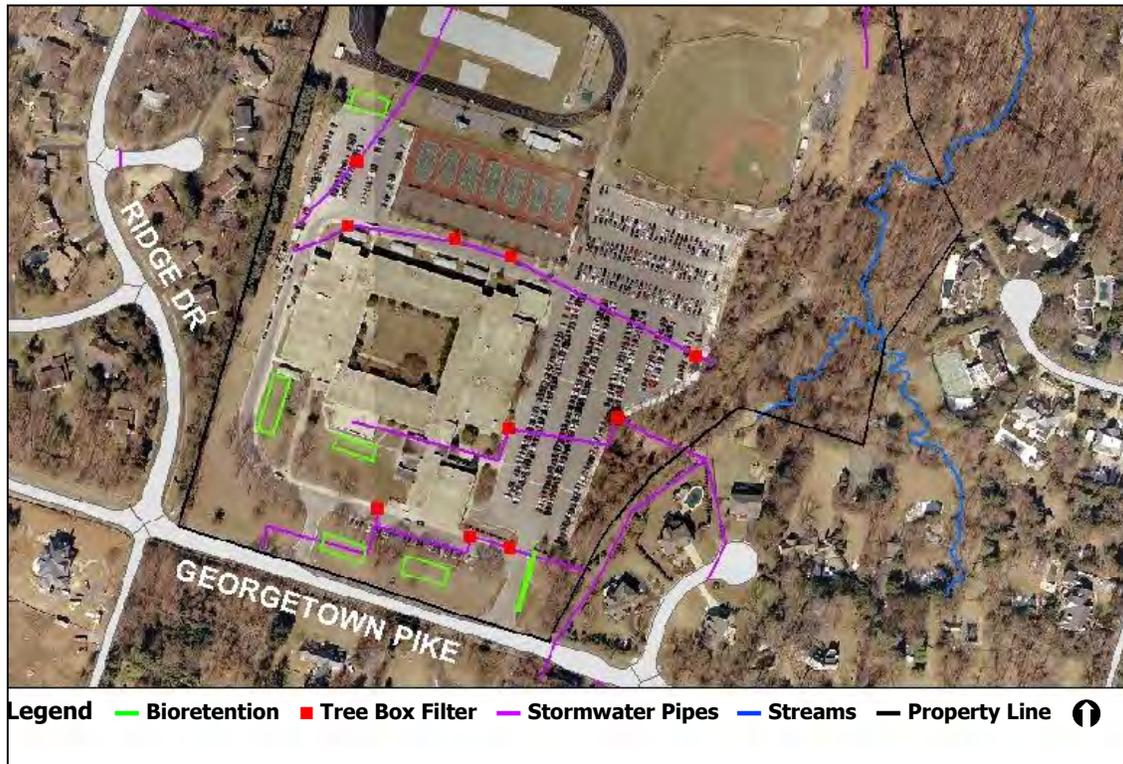
Vicinity Map

Address: 6502 Georgetown Pike
Location: Langley High School
Land Owner: Fairfax County Public Schools
PIN: 0223 01 0010
Drainage Area: 19.5 acres
Stream Name: Turkey Run

Description: The school does not have existing stormwater controls and there is some stream bank erosion adjacent to the school site. Add bioretention areas in the grass areas around the school and replace ten curb drop inlets in the parking lots with tree box filters.

Potential Benefits: An estimated 18.1 lbs/yr of phosphorus will be removed. This project will also provide stormwater runoff flow reduction for small storm events which will help prevent future erosion downstream of the school.

Project Design Considerations: This project will not affect Buffer Restoration Project TR9308, which is adjacent to the school. There are minimal environmental permitting requirements for this project. The facility can be accessed from Georgetown Pike. An easement will not be required. There are no significant construction issues found on this site. Impacts to trees will be minimized.



Project Area Map: Conceptual plan showing potential locations of LID measures

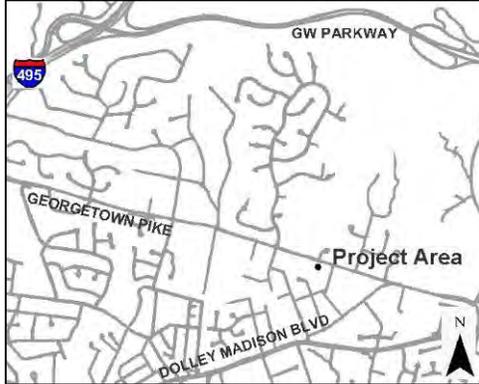


Site Photo: Facing northeast with athletic fields in the background

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Tree Box Filters	10	EA	\$5,000.00	\$50,000.00
Bioretention	1750	SY	\$250.00	\$437,500.00
Erosion and Sediment Control	1	LS	\$3,000.00	\$3,000.00
			Base Construction Cost	\$490,500.00
			Mobilization (5%)	\$24,525.00
			Subtotal 1	\$515,025.00
			Contingency (25%)	\$128,756.25
			Subtotal 2	\$643,781.25
			Engineering Design, Surveys, Land Acquisition, Utility Relocations, and Permits (45%)	\$289,701.56
			Estimated Project Cost	\$940,000.00

Project: TR9810 New LID Project



Vicinity Map

Address: 6519 Georgetown Pike
Location: Korean Orthodox Presbyterian Church
Land Owner: Private Organization
PIN: 0223 01 0004B
Drainage Area: 1.5 acres
Stream Name: Turkey Run

Description: The church does not have existing stormwater controls. Add bioretention areas in the grass areas around the church.

Potential Benefits: An estimated 1.0 lb/yr of phosphorus will be removed. This project will also provide stormwater runoff flow reduction for small storm events.

Project Design Considerations: There are minimal environmental permitting requirements for this project. The facility can be accessed from Georgetown Pike. An easement will be required. There are no significant construction issues found on this site. Impacts to trees will be minimized.



Project Area Map: Conceptual plan showing potential locations of LID measures



Site Photo: Facing west at the rear parking lot

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Bioretention	110	SY	\$250.00	\$27,500.00
Erosion and Sediment Control	1	LS	\$3,000.00	\$3,000.00
		Base Construction Cost		\$30,500.00
		Mobilization (5%)		\$1,525.00
		Subtotal 1		\$32,025.00
		Contingency (25%)		\$8,006.25
		Subtotal 2		\$40,031.25
Engineering Design, Surveys, Land Acquisition, Utility Relocations, and Permits (45%)				\$18,014.06
		Estimated Project Cost		\$60,000.00

Project: TR9812 New LID Project



Vicinity Map

Address: 6319 Georgetown Pike
Location: Clemyjontri Park
Land Owner: Fairfax County Park Authority
PIN: 0311 01 0011
Drainage Area: 4.2 acres
Stream Name: Unnamed tributary to Turkey Run

Description: Clemyjontri Park opened in October 2006. The park has a stormwater management pond planned for the future. Additional LID measures such as a bioretention area at the parking lot will provide additional water quality treatment above and beyond what is required.

Potential Benefits: An estimated 1.0 lb/yr of phosphorus will be removed. This project will also provide stormwater runoff flow reduction for small storm events.

Project Design Considerations: There are minimal environmental permitting requirements for this project. The facility can be accessed from Georgetown Pike. An easement will not be required. There are no significant construction issues found on this site. Impacts to trees will be minimized.



Project Area Map: Conceptual plan showing potential locations of LID measures



Site Photo: Looking south at the park during its construction

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Bioretention	100	SY	\$250.00	\$25,000.00
Erosion and Sediment Control	1	LS	\$3,000.00	\$3,000.00
		Base Construction Cost		\$28,000.00
		Mobilization (5%)		\$1,400.00
		Subtotal 1		\$29,400.00
		Contingency (25%)		\$7,350.00
		Subtotal 2		\$36,750.00
		Engineering Design, Surveys, Land Acquisition, Utility Relocations, and Permits (45%)		\$16,537.50
		Estimated Project Cost		\$60,000.00