

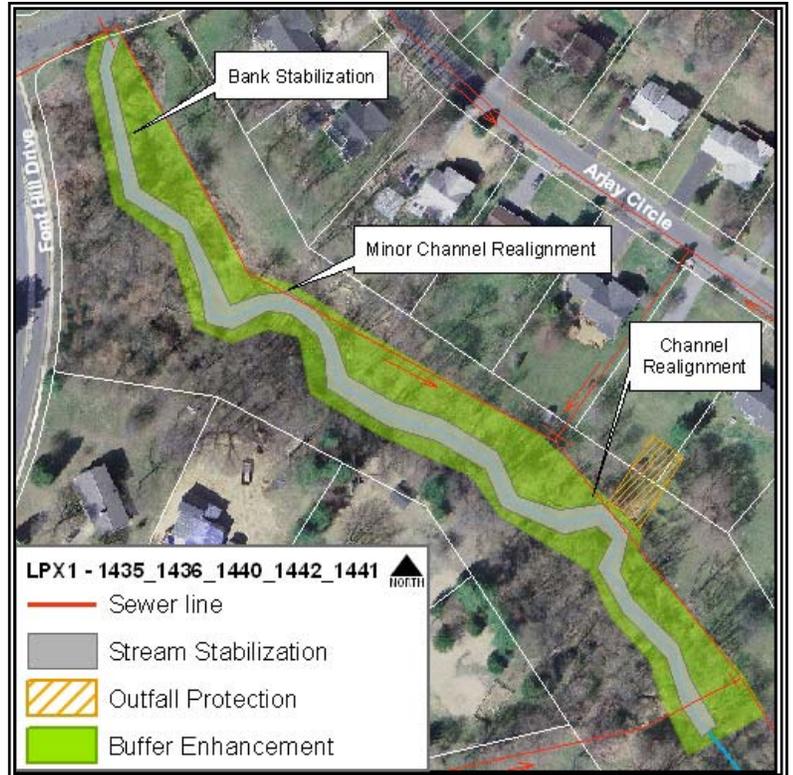
Proposed Project

Upper Little Patuxent

Project Number:
1435_1436_1438_1440_1442_1441
Subwatershed: Little Patuxent 1

Project Type: Stream Restoration
Project Size: Approx. 1100 linear feet

Project Location: Located between Jay Em Circle and Arjay Circle in Ellicott City



Project Description: This project would consist of regrading and stabilizing the stream banks in problem areas. This would be accomplished through excavating a floodplain bench throughout most of the study area. A sewer line runs parallel to the stream channel, with some outer meander bends existing very close to the line. These meanders would be realigned to further protect the sewer line. Additionally, a grade control structure would be installed at the sewer crossing to protect infrastructure and prevent headcutting. The riparian buffer on the left bank (facing downstream) would also be widened to improve stream stability. An outfall located in a meander bend in the upper portion of the reach would be repaired and stabilized to prevent further erosion.

Project Benefits:

Stabilization	The stream banks will be stabilized to reduce toe scour and erosion.
Water Quality	Implementation of this project will provide a reduction in sediment supply and the associated water quality benefits.
Education	The project could provide educational benefits due to the proximity of the project to adjacent residential areas.

Project Constraints:

Environmental	Stream/wetland permitting will be necessary and stream closure periods may affect timing of work. Some tree impacts may occur as a result of construction. No major environmental constraints are anticipated with this project.
Property Ownership	This project is located on the Gwynn Acres natural resource area and is surrounded by private land owners. Residential properties affected by this project include 4020 and 4024 Arjay Circle, as a result of the outfall stabilization.
Facility Access	Access to this site is best obtained from Windflower Drive via the existing easement.

Proposed Project

Upper Little Patuxent

Design / Construction

An existing sewer line on the left bank (facing downstream) as well as sewer line crossing in the lower portions of the reach could pose possible constraints to the project.

Proposed Project

Upper Little Patuxent

Project Number: 1435_1436_1438_1440_1442_1441
Subwatershed: Little Patuxent 1

Project Type: Stream Restoration/Outfall Repair

Cost Detail:

ITEM	QTY	UNITS	UNIT COST	TOTAL
Stream Restoration				
Stream restoration/stabilization ¹	1,100	LF	\$482.00	\$530,200
Buffer enhancement	1,100	LF	\$30.00	\$33,000
Outfall stabilization/protection ²		LF	\$100.00	\$0
			Direct Construction Subtotal	\$563,200
Indirect Costs				
E/SC, MOT, MOS (included above)				\$0
Construction Stakeout (2%)	1	LS	\$11,264.00	\$11,264
			Base Construction Cost	\$574,464
			Mobilization (10% of Directs or \$1,000)	\$56,320
			Subtotal	\$630,784
			Contingency (30%)	\$189,235
			Construction Subtotal	\$820,019
			Env't'l Studies / Permitting (5% of Construction or \$5,000)	\$41,001
			Engineering and Surveys	\$176,000
			Post-Construction Monitoring (\$40 / LF or \$4,000)	\$44,000
			Total Capital Cost	\$1,081,020
Operations and Maintenance Costs				
Annual Maintenance	5	Percent	\$28,160	
Discount Rate	5	Percent		
Expected Life	5	Years		
			Net Present Value of Annual Costs	\$121,918
			Life Cycle Cost	\$1,203,000

¹Cost per linear foot is based on linear regression of previous stream restoration/stabilization jobs ranging from 35 to 2215 linear feet.

²Outfall protection costs are included in the linear foot measurement of stream restoration/stabilization, measuring 80 linear feet.