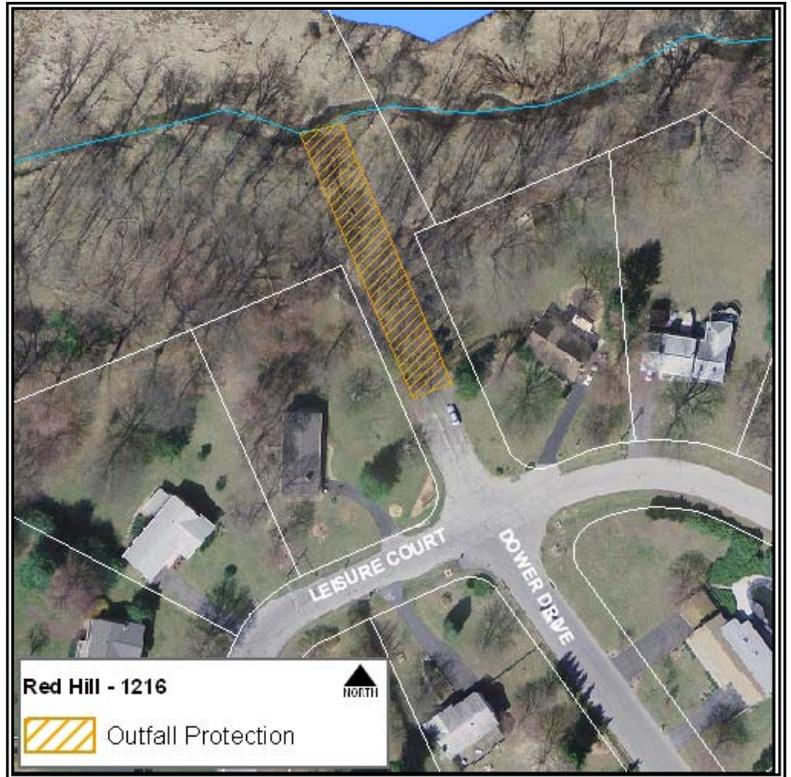
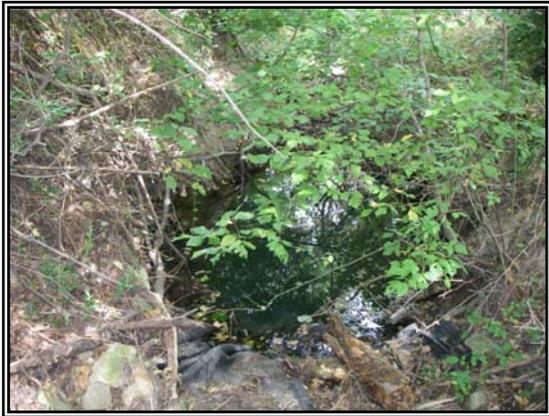


Proposed Project

Project Number: 1216
Subwatershed: Red Hill Branch

Project Type: Outfall Stabilization
Project Size: 250 linear feet

Project Location: Initiates at the dead end of Dower Drive.



Project Description: This project would include stabilizing the outfall channel downstream to the confluence at Dower Drive. There is an opportunity to reduce impervious surface with the removal of pavement immediately upland of the outfall. This may allow for the creation of an area to mitigate overland flow prior to it reaching the outfall channel.

Project Benefits:

- Stabilization** The outfalls will be stabilized to reduce scour.
- 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 permitting will be necessary and stream closure periods may affect timing of work. No major environmental constraints are anticipated with this project.
- Property Ownership** This project is located adjacent to Meadowbrook Park on County parkland natural resource area.
- Facility Access** Access to this site is obtained from Dower Drive
- Design / Construction** No major design or construction constraints are present.

Proposed Project

Upper Little Patuxent

Project Number: 1216

Subwatershed: Red Hill Branch

Project Type: Outfall Stabilization

Cost Detail:

ITEM	QTY	UNITS	UNIT COST	TOTAL
Stream Restoration				
Stream restoration/stabilization ¹		LF	\$ 608.00	\$0
Buffer enhancement		LF	\$30.00	\$0
Outfall stabilization/protection	250	LF	\$100.00	\$25,000
			Direct Construction Subtotal	\$25,000
Indirect Costs				
E/SC, MOT, MOS (included above)				\$0
Construction Stakeout (2%)	1	LS	\$500.00	\$500
			Base Construction Cost	\$25,500
			Mobilization (10% of Directs or \$1,000)	\$2,500
			Subtotal	\$28,000
			Contingency (30%)	\$8,400
			Construction Subtotal	\$36,400
			Env'tl Studies / Permitting (5% of Construction or \$5,000)	\$5,000
			Engineering and Surveys	\$103,250
			Post-Construction Monitoring (\$40 / LF or \$4,000)	\$10,000
			Total Capital Cost	\$154,650
Operations and Maintenance Costs				
Annual Maintenance	5	Percent	\$1,250	
Discount Rate	5	Percent		
Expected Life	5	Years		
			Net Present Value of Annual Costs	\$5,412
			Life Cycle Cost	\$160,100

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