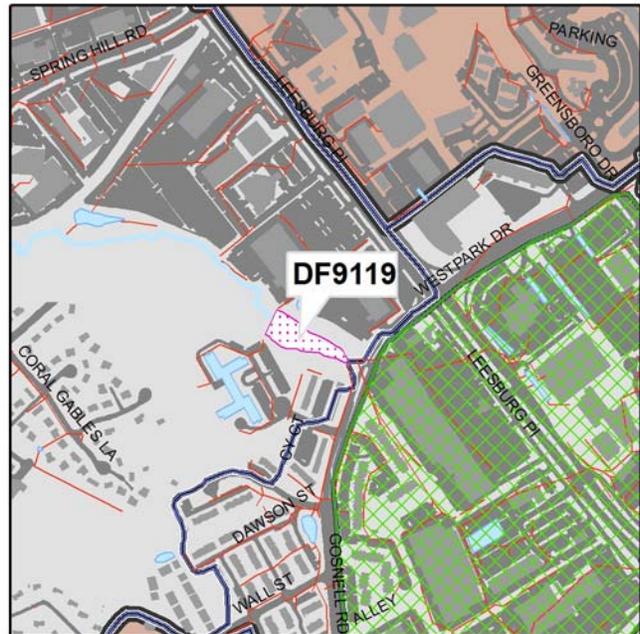


Project Number: DF9119
Catchment Code: DFOR0099
Candidate Site: C19

Project Type: New Pond
Project Size: 1.2 acres
Treated Area: 129 acres

Project Location: West of Gosnell Road and south of Leesburg Pike.

Project Description: This project is a new dry, in-stream facility at the outfall of this catchment. The size of the pond will depend on the design of the LID upstream. Assuming the LID is designed for water quality control of the whole drainage area, it would allow pond storage to be sized for channel protection only. Disconnection of upstream imperviousness would also reduce the volume required.



Potential Project Benefits:

Peak Flow	The pond will provide approximately 20% of the channel protection volume calculated assuming no LID retrofits are installed.
Water Quality	The pond would be designed as a dry facility and water quality improvements would be derived from reduction of stream erosion.

Potential Project Constraints:

Environmental	There may be some permitting issues associated with the temporary impoundment of runoff in the floodplain. Projects in RPAs may require exceptions or waivers.
Property Ownership	This area appears to be privately owned.
Facility Access	Access to this area is good by way of public roads.
Design / Construction	Coordination with private property owners would be necessary. No other design or construction issues were noted for this project.

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Clear and Grub	0.3	AC	\$5,000.00	\$1,500
Embankment	1,620	CY	\$60.00	\$97,200
Riser Structure	1	LS	\$10,000.00	\$10,000
Landscaping	1,040	SY	\$2.50	\$2,600
Base Construction Cost				\$111,300
Mobilization (5%)				\$5,565
Subtotal 1				\$116,865
Contingency (25%)				\$29,216
Subtotal 2				\$146,081
Engineering, Survey, Land Acquisition, Utility Relocations and Permits (45%)				\$65,737
Estimated Project Cost				\$212,000

Concept Sketch

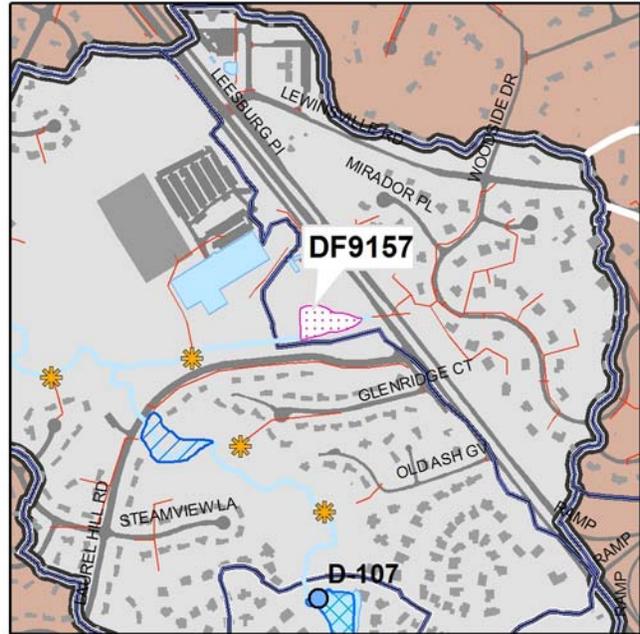


Project Number: DF9157
Catchment Code: DFOR0004
Candidate Site: C57

Project Type: New Pond
Project Size: 1.0 acres
Treated Area: 78.7 acres

Project Location: This project is located north of Laurel Hill Road, downstream of the intersection with Leesburg Pike.

Project Description: This project would construct a new dry pond to control the discharge into the stream by reducing the peak flows from the upstream area developed prior to stormwater management.



Potential Project Benefits:

Streamflow	This facility would provide 100% of the channel storage volume and help to reduce erosive flows downstream.
Water Quality	Reduction in erosive flows will reduce sedimentation downstream. Some reduction of pollutants will occur at the site with increased settling associated with extended detention.

Potential Project Constraints:

Environmental	There may be some permitting issues associated with the temporary impoundment of runoff in the floodplain. Some forest impacts would occur during construction. Projects in RPAs may require exceptions or waivers.
Facility Access	Access to this project is very good from the roadway.
Design / Construction	No unusual design or construction issues were found.

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Clear and Grub	0.4	AC	\$5,000.00	\$2,000
Embankment	4,090	CY	\$60.00	\$245,400
Riser Structure	1	LS	\$10,000.00	\$10,000
Landscaping	1,830	SY	\$2.50	\$4,575
Base Construction Cost				\$261,975
Mobilization (5%)				\$13,099
Subtotal 1				\$275,074
Contingency (25%)				\$68,768
Subtotal 2				\$343,842
Engineering, Survey, Land Acquisition, Utility Relocations and Permits (45%)				\$154,729
Estimated Project Cost				\$439,000

Concept Sketch:

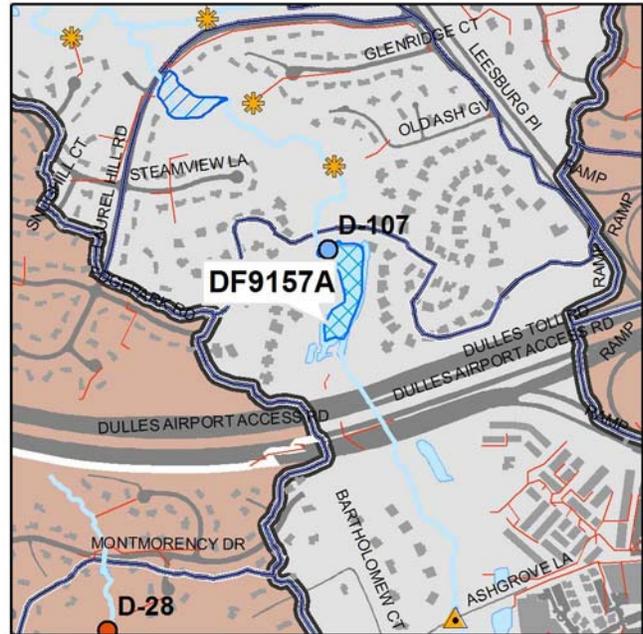


Project Number: DF9157A
Catchment Code: DFOR0004
Candidate Site: C57

Project Type: Pond Retrofit.
Project Size: 1.9 acres
Treated Area: 485 acres

Project Location: At the crossing of Jarrett Valley Drive.

Project Description: This project is a retrofit of regional pond D-107, designed to change outflow characteristics to provide channel protection as a dry extended detention pond for the large, drainage area upstream. Water quality features will enhance pollutant removal as a secondary goal.



Potential Project Benefits:

Streamflow	The project will provide approximately 40% of the channel protection volume.
Water Quality	Some reduction of pollutants will occur with increased settling associated with extended detention, along with vegetative uptake on the site.

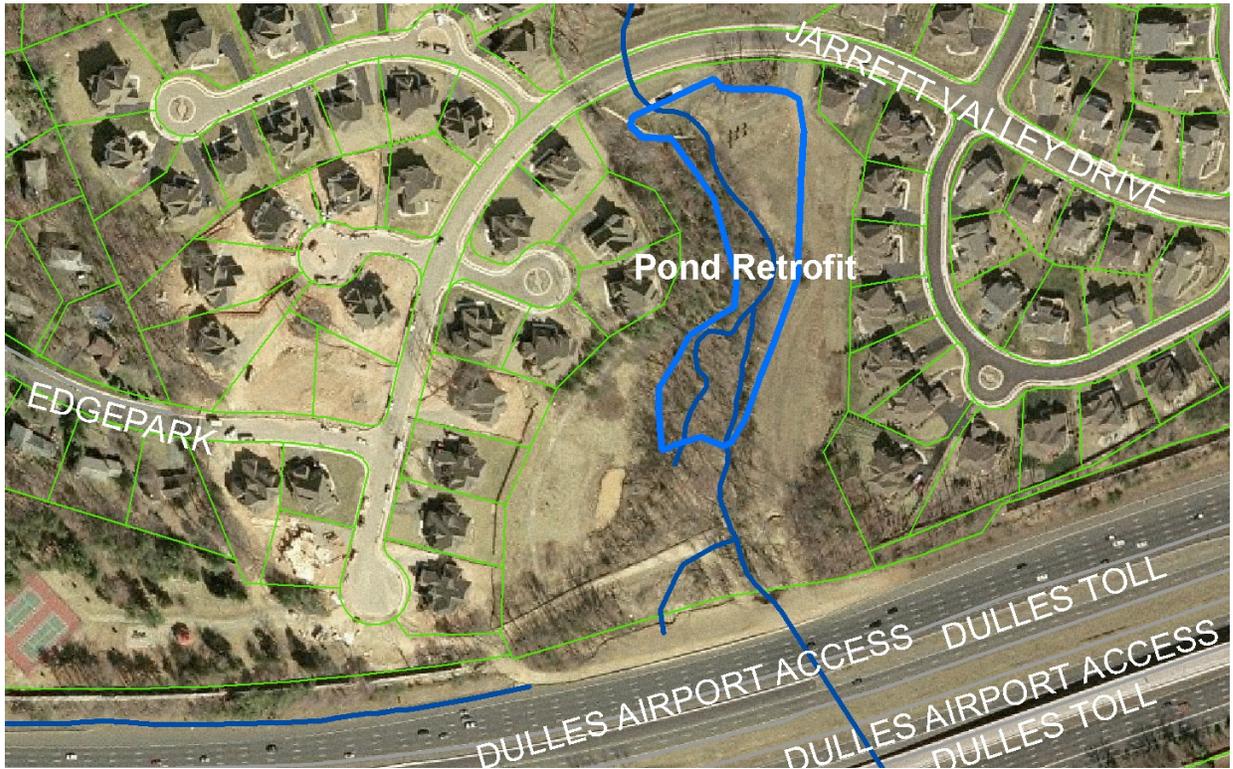
Potential Project Constraints:

Environmental	Environmental permitting issues would not be anticipated for this retrofit project. Projects in RPAs may require exceptions or waivers.
Facility Access	Access to this area is good by way of public roads.
Design / Construction	No specific design or construction issues were noted for this project. County staff will coordinate with the facility owner to implement the project.

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Clear and Grub	0.47	AC	\$5,000.00	\$2,342
Grading and Excavation	4,912	CY	\$30.00	\$147,350
Outlet Protection	1	EA	\$8,000.00	\$8,000
Riser	1	LS	\$10,000.00	\$10,000
Wetland Planting	1,133	SY	\$2.00	\$2,267
Dry Landscaping	1,700	SY	\$2.50	\$4,250
Base Construction Cost				\$174,209
Mobilization (5%)				\$8,710
Subtotal 1				\$182,919
Contingency (25%)				\$45,730
Subtotal 2				\$228,649
Engineering, Survey, Land Acquisition, Utility Relocations and Permits (45%)				\$102,892
Estimated Project Cost				\$332,000

Concept Sketch

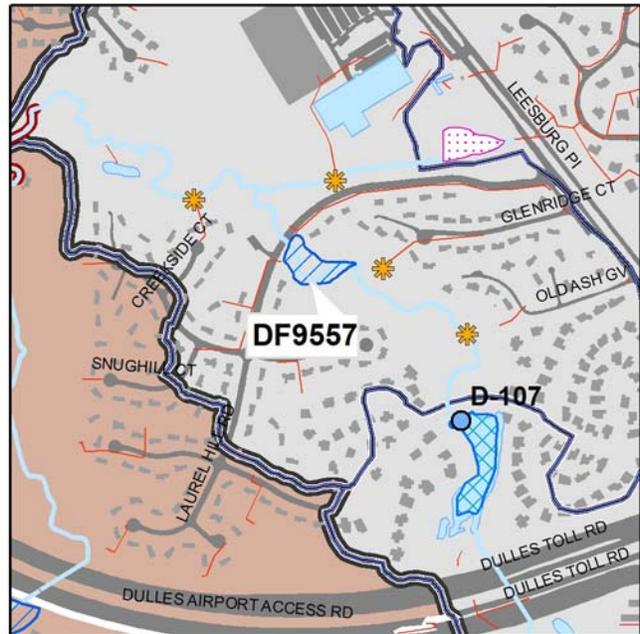


Project Number: DF9557
Catchment Code: DFOR0004
Candidate Site: C57

Project Type: Culvert Retrofit.
Project Size: 1.2 acres
Treated Area: 76 acres

Project Location: North of Streamview Lane, east of the crossing under Laurel Hill Road.

Project Description: This project should be designed to handle both water quality and channel protection. The retrofit will be designed as a dry extended detention facility, with water quality features such as wetland plantings and a micropool to enhance pollutant removal.



Potential Project Benefits:

Streamflow	This retrofit would provide approximately 75% of the channel protection storage volume and help to reduce erosive flows downstream.
Water Quality	Improvements to the water quality should be obtained through the reduction in scour forming discharges, sediment settlement, and vegetative uptake.

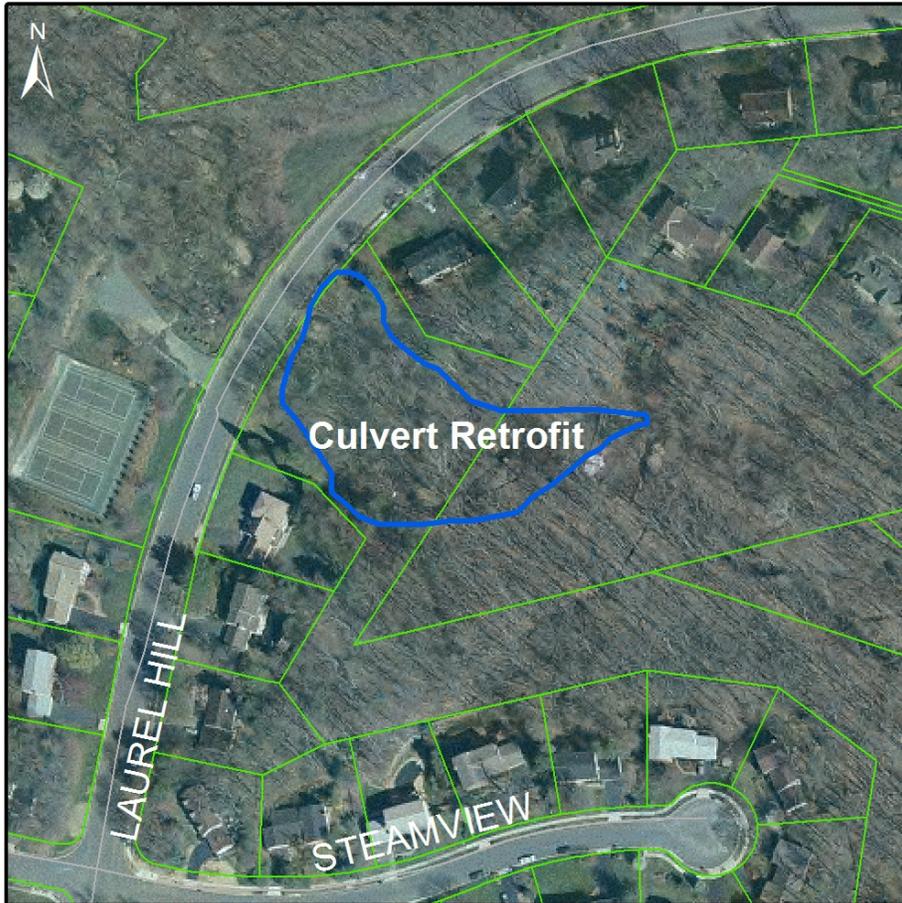
Potential Project Constraints:

Environmental	There may be some permitting issues associated with the temporary impoundment of runoff in the floodplain above this culvert. Some forest impacts would occur during construction. Projects in RPAs may require exceptions or waivers.
Facility Access	Access to this project is very good from the roadway.
Design / Construction	No unusual design or construction issues were found.

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Clear and Grub	0.3	AC	\$5,000.00	\$1,500
Excavation	1,170	CY	\$35.00	\$40,950
Impoundment Structure	1	LS	\$5,000.00	\$5,000
Landscaping	1,090	SY	\$2.50	\$2,725
Wetland Planting	370	SY	\$2.00	\$740
Base Construction Cost				\$50,915
Mobilization (5%)				\$2,546
Subtotal 1				\$53,461
Contingency (25%)				\$13,365
Subtotal 2				\$66,826
Engineering, Survey, Land Acquisition, Utility Relocations and Permits (45%)				\$30,072
Estimated Project Cost				\$97,000

Concept Sketch

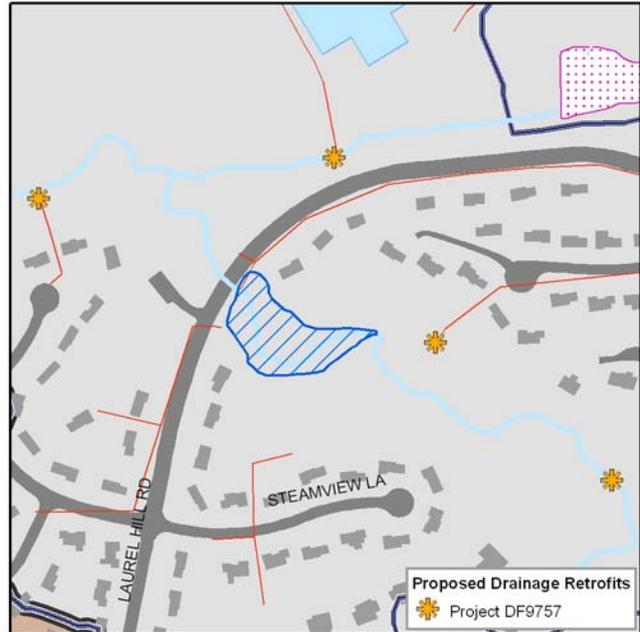


Project Number: DF9757
Catchment Code: DFOR0004
Candidate Site: C57

Project Type: Drainage Retrofit.
Project Size: 4 Outfalls

Project Location: Different locations throughout the catchment.

Project Description: Several outfalls in this area show evidence of scour and erosion. This project is designed to provide adequate energy dissipation, such as: riprap, plunge pools, or other structures at outfalls where the piped storm drain systems discharge into a natural channel.



Potential Project Benefits:

Streamflow	The project will reduce velocity from the outfalls and help reduce erosive potential immediately downstream.
Water Quality	Water quality improvements would be associated with the reduction of scour at outfall locations and within the downstream channels. Habitat would be improved by reducing sediment loads from erosion.

Potential Project Constraints:

Environmental	Environmental impacts and permit requirements are not anticipated for this project; however, projects in RPAs may require exceptions or waivers
Facility Access	Access to these sites can usually be obtained from the roadway and driveways.
Design / Construction	No unusual design or construction issues were identified.

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
Outfall Protection	4	EA	\$8,000.00	\$32,000.00
Base Construction Cost				\$32,000
Mobilization (5%)				\$1,600
Subtotal 1				\$33,600
Contingency (25%)				\$8,400
Subtotal 2				\$42,000
Engineering, Survey, Land Acquisition, Utility Relocations and Permits (45%)				\$18,900
Estimated Project Cost				\$61,000

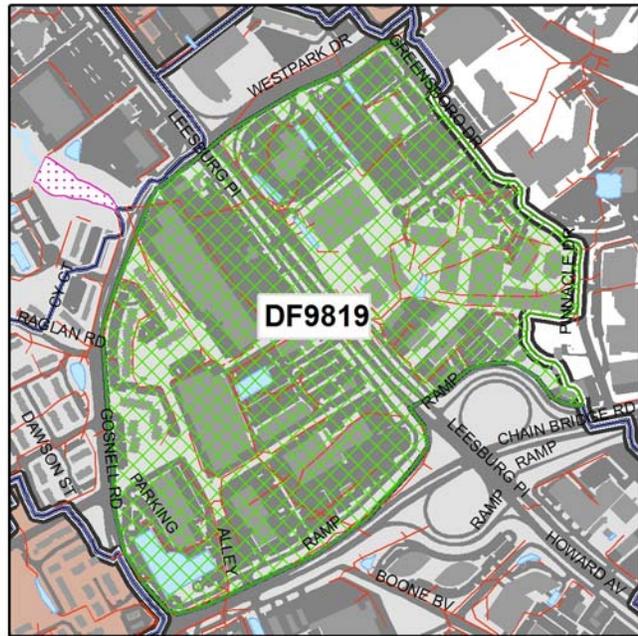
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Project Number: DF9819
Catchment Code: DFOR0099
Candidate Site: C19

Project Type: LID Retrofit
Project Size: 0.02 acres
Treated Area: 120.8 acres

Project Location: Intersection of Leesburg Pike and Chain Bridge Road

Project Description: The project is a retrofit of LID site design and structures to improve the quality of the discharge from this area, parts of which were developed without stormwater management facilities. Options include porous pavement on infrequently used parking areas, inlet filters for storm drains, or bioretention in the parking medians. It is anticipated that these practices may be implemented as part of redevelopment activities.



Potential Project Benefits:

Streamflow	Improvement may occur in runoff volume from reduction of impervious area and the detention and infiltration components of the LID systems.
Water Quality	This project has been designed to treat 100% of the water quality volume for the site. Water quality will be improved from filtration and nutrient uptake in these systems.

Potential Project Constraints:

Environmental	No environmental constraints or permitting issues are anticipated.
Facility Access	Access to the site is excellent by public roads and parking areas.
Design / Construction	No significant design or construction issues were noted.

Costs:

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL
LID Structural Control	7,538	SY	\$120.00	\$904,560
Base Construction Cost				\$904,560
Mobilization (5%)				\$45,228
Subtotal 1				\$949,788
Contingency (25%)				\$237,447
Subtotal 2				\$1,187,235
Engineering, Survey, Land Acquisition, Utility Relocations and Permits (45%)				\$534,256
Estimated Project Cost				\$1,721,000

Concept Sketch:

