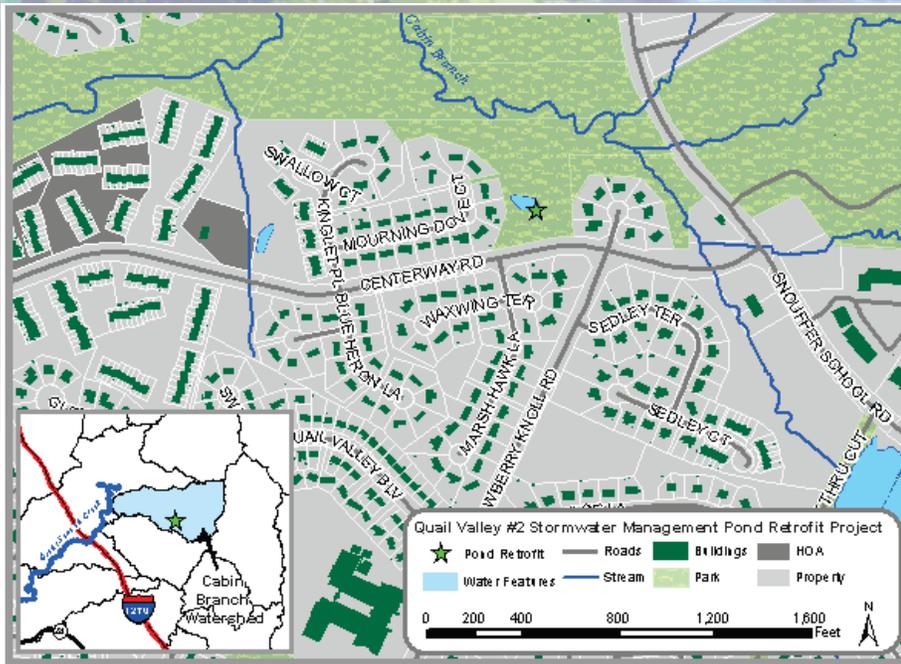




Watershed Restoration FACT SHEET

Quail Valley #2 Stormwater Management Retrofit Project



Watershed Facts

Subwatershed Drainage Area: 4.8 sq. mi.
Subwatershed Imperviousness: 25.8%

Property Ownership

Maryland-National Capital Park and Planning Commission (M-NCPPC)

Restoration Goals

The project goal is to improve water quality, stream health, and ecological benefits by replacing a dry pond with sand berms that replicate natural functions.

Restoration Project Facts

Project Length : 150 feet

Drainage Area Captured: 48.9 acres

Estimated Costs:

\$285,000

Project Status:

Estimated start of construction Summer 2015

Monitoring Facts

Pre- and post-restoration monitoring will be conducted, following MCDEP monitoring protocols.

Location of Quail Valley #2 Stormwater Management Retrofit Project

The proposed limits of disturbance are entirely within the Cabin Branch Stream Valley Park, owned by the Maryland-National Capital Park and Planning Commission.

Project Selection

The Montgomery County Department of Environmental Protection has selected the Quail Valley #2 stormwater management pond for a stormwater retrofit project. Located in the Quail Valley neighborhood within the Cabin Branch watershed, the pond was constructed in the early 1980s before current stormwater management techniques.

Similar to other restoration projects throughout the County, this project is designed to assist in compliance with the County's Municipal Separate Storm Sewer System (MS4) permit by treating stormwater runoff and stabilizing stream channels. This project will help to restore water quality, stream health, and ecological function in Cabin Branch and downstream waters, including Seneca Creek.



View of the existing pond during a storm event.

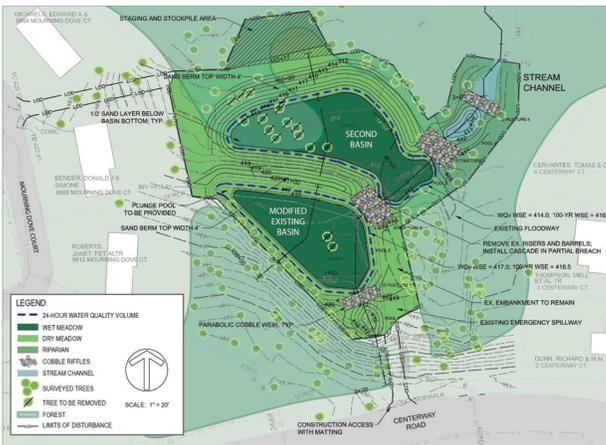


Pre-Restoration Conditions

Pre-Restoration Conditions

The drainage area to the pond lies within the Quail Valley community. The drainage area is fully developed and has 24% impervious cover. Land cover consists of single-family homes on ¼ to ½-acre lots on gently rolling terrain, as well as open space with several areas of tree canopy. The project site is part of the Cabin Branch Stream Valley Park and is adjacent to the floodplain. The park is owned by the Maryland-National Capital Park and Planning Commission (M-NCPPC).

The pond currently acts as a dry detention facility, receiving runoff from neighborhoods along Centerway and Strawberry Knoll Roads. The pond is in good structural condition and is well maintained, but provides few ecological benefits. The channel below the pond is eroded, incised, and largely disconnected from the floodplain.



Proposed Retrofit Plan View

Restoration Actions

The proposed stormwater pond retrofit will allow the pond to treat approximately 50% of the Water Quality Volume, which results from one inch of rain. This will remove common pollutants such as nutrients, hydrocarbons, and metals. The western half of the existing pond embankment will be replaced with a sand berm. The basin will temporarily store up to 1.5 feet of water. Seepage through the berm will allow the basin to drain within 24 hours. Overflow will pass into a new, second basin with another sand berm, constructed in open space below the upper basin and outside of the floodplain. Cobble riffle structures are a unique aspect of this project. The riffles are designed to pass flows from events as large as the 100-year storm in a non-erosive manner. A riffle structure will be used to replace the existing metal riser, allowing overflow to pass between basins. About 150 feet of the existing eroded stream channel will be stabilized using riffle structures and pools.



Stream Restoration Component of the Project

The project area will be revegetated with attractive native plants. During dry periods between storms, the system will remain moist enough to support a variety of native wet-adapted plants. Dry meadow will be established on higher ground. Trees will also be planted throughout the project area. This project will serve as an innovative approach to stormwater management within the Cabin Branch watershed and Quail Valley community.



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