Westmoreland Conservation District

Watershed Restoration

Nature Park-Donohue Creek Protection and Restoration

Design Features: stormwater retention basins, bioretention swales, porous pavement

Date of Installation: 2006-2009

Location: Ann Rudd Saxman Nature Park (Greenforge Office Building, Bureau of Parks and Recreation, Donohue Basin)

Client: Westmoreland Conservation District

Cost: $100,000

Project Partners: Westmoreland Conservation District, Sewickley Creek Watershed Association

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Unmanaged stormwater runoff from the Bureau of Parks and Recreation site before construction flowing onto Donohue Road

Bureau of Parks and Recreation site after construction with retention basin in place

Project Specifications:

Stormwater from in and around the Ann Saxman Nature Park area off of Donohue Road had previously been flowing into Donohue Creek causing severe stream erosion from being improperly managed.

The Westmoreland Conservation District provided technical assistance and project management for this project. Funds were acquired through a Growing Greener grant to install Best Management Practices (BMPs) in sites surrounding the Nature Park to improve the water quality and quantity flowing into the creek.

The three main sites where BMPs were constructed were at the Greenforge Office Building, Bureau of Parks and Recreation building, and the Donohue Basin.

A new stormwater basin was constructed at the Greenforge building along with the installation of porous pavement in the surrounding parking lot. The existing BMPs at the Bureau of Park and Recreation site were retrofitted with three new bioretention swales. The first is a forebay to pretreat any large sediment being carried in the stormwater with the following two swales increasing detention time and restricting the amount of water leaving the site to flow directly into Donohue Creek. The Donohue Basin was retrofitted by installing a new inlet riser.

Benefits:

The Parks retention basin retains approximately 40,000 gallons of runoff from the property after its retrofit, which reduces the volume and velocity of stormwater running onto Donohue Road. All of these projects ultimately reduced the erosion and sedimentation in Donohue Creek, improving the habitat and water quality downstream.

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Area by the Bureau of Parks building before main retention pond is installed; uncontrolled stormwater flow directly onto Donohue Road

New stormwater retention basin constructed to control stormwater

Retention basin at work after a rainstorm

Bureau of Parks basin 10 years after construction

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Forebay area of the Bureau of Parks basin before construction

Forebay area after construction

Forebay area managing a rainfall about a month after construction

Forebay 10 years after construction

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Area next to the Greenforge Office Building during construction of the stormwater retention basin

Completed construction of the basin

The retention basin managing stormwater during a rainfall two years after construction

The Greenforge basin eight years after construction

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The Donohue basin with a new inlet riser installed

The Donohue basin eight years after retrofitting