Westmoreland Conservation District

Watershed Restoration

Lowber AMD

Design Features: Passive Wetland Treatment System

Date of Installation: 2006

Location: Lowber Road, Lowber, PA

Client: Sewickley Creek Watershed Association

Cost: $1,300,000

Project Partners: Sewickley Creek Watershed Association, PA Department of Environmental Protection, Hedin Environmental, Foundation for PA Watersheds, Westmoreland Conservation District, Yough High School, Dominion/ Western PA Conservancy.

Project Contact: Rob Cronauer, Rob@wcdpa.com or Thomas Keller, scwa@sewickleycreek.com

Aerial Photo taken from Bing Maps

Project Specifications

The Marchand abandoned deep mine site, located northeast of Lowber in the lower Sewickley Creek watershed in Sewickley Township, was a former coal and coke processing facility. The closing of this operation in the 1940's, resulted in a 1500 gpm AMD discharge to Sewickley Creek. This discharge added approximately 600,000 pounds of dissolved iron to the creek each year.

The Sewickley Creek Watershed Association received DEP Growing Greener funds in 2001 to study, design, and construct a passive remediation project. Throughout this project the Westmoreland Conservation District provided technical assistance, project management, and the creation of interpretative signs for the treatment system.

The passive treatment system, built in conjunction with Hedin Environmental and Iron Oxide Recovery, Inc., includes a series of aeration ponds and constructed wetlands. The goal of this system was to reduce iron levels by 90 percent before the water leaves the treatment facility. A secondary goal was to salvage of the iron oxide as a raw material pigment for utilization in paints, dyes, and stains.

The Passive treatment system was successfully completed in 2006. (Iron oxide levels of the discharge have dropped from 70 ppm to 1ppm after passage through the treatment facility). A ribbon cutting ceremony was conducted in October 2007.

Benefits

On the same site where the Marchand Mine operated the Lowber Passive Wetland Treatment System is converting abandoned mine drainage into clean water before entering Sewickley Creek and salvaging the iron oxide into a marketable product.

For additional information and printable PDF Brochure (CLICK HERE)

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The system consists of a series of ponds followed by a constructed wetland. As the water flows through the system the iron is naturally oxidized to orange iron oxide which settles in the ponds and wetlands.

Water is transferred between the ponds in troughs that aerate and distribute the flow across each pond.

Every 5-7 years the ponds will be cleaned out and the iron sludge will be captured, processed and sold.