

Project Fact Sheets - Wetland No. 3 & Beatty Road Project

FACT SHEET

Loyalhanna Creek Mine Drainage Coalition Monastery Run Project

Wetland #3 and Mesocosm

Wetland #3, behind the St. Vincent Grist Mill, was constructed during the summer of 1997 as a passive treatment wetland system to treat abandoned mine drainage.

It primarily treats water from the artesian discharge, which was known as "The Bubbler." Using the head pressure in the underground mine complex, the mine water from "The Bubbler" is piped upstream 1600 feet to a suitable location for treatment. The passive treatment wetlands system allows for aeration and detention time sufficient to reduce the iron content from about 90 mg/L to about 1 mg/L.

A Mesocosm (outdoor laboratory) was constructed consisting of four equally size cells where field research on mine water treatment may occur. Water can be controlled and monitored to research alternative field treatments. Mine water from a nearby discharge or "The Bubbler" water can be used.

Project Design: USDA Natural Resources Conservation Service designed Wetland #3 under a cooperative arrangement with St. Vincent College. The Mesocosm was designed by EBS Consultant, Terry Rightmire.

Funds for Construction & Design: Major funding from an EPA 319 grant, to St. Vincent College through PA DEP. Supplemental Funding from Heinz Foundation, McKenna Foundation, and NRCS. Allegheny Power has recently supplied electric service to the mesocosm.

Wetland Size: 3.11 acres

Contractor: Stoy Excavating
Somerset, PA

Contract Administration: St. Vincent College in cooperation with NRCS.

Construction Cost: \$220,000

Dedicated: August, 1997

Operation and Maintenance: St. Vincent College/Wimmer Corp.

MONASTERY RUN PROJECT - WETLAND NO. 3



Schematic Drawing

Special Features of Wetland #3:

- ❖ Maintained an undisturbed 50-foot riparian buffer zone during construction, which has been enhanced by additional plantings.
- ❖ Allowed portions of cattail marsh to remain throughout construction to support biological life.
- ❖ A bentonite slurry cut-off trench was installed under the exterior dike to prevent subsurface flow of water between wetlands and stream.
- ❖ Designed to allow different water depths and flow patterns between cells.



Wetland No. 3



Fact Sheet

PROJECT OSM 65(1776)101.1 Beatty Road Mine Subsidence Control Project

- **GOAL:** To Increase Support Under Beatty Road and the Fourmile Run Stream Channel to Minimize Future Mine Subsidence Problems
- **Contract Awarded:** Mid-February, 1996 (approx) FEB 22, 1996
- **Start of Construction:** Spring 1996 (anticipated) MAY 22, 1996
- **SUMMARY OF PROJECT DESIGN**
 - * 750 lf of Six Inch (6") Drilling & Casing
 - * Preparation of 25 Injection Sites
 - * Injection of approx. 10,000 tons of slurry
 - 7,700 tons of flyash
 - 1,000 tons of sand
 - 1,100 tons of cement (23,100 bags)
- **Estimated Construction Cost:** approx. \$300,000 (\$196,812.85) FINAL OCT. 29, 1996
- **A Follow-up Project** to surface seal the open subsidence pits will be completed by the PA DEP/ BAMR's Ebsburg District Office in-house Construction Crew following the completion of the Flushing Project.
(estimated completion - Fall, 1996) (SPRING 1997)



Mixing Plant for Injection Material