

McCaslin Road Passive Treatment System
SRI O&M TAG Project #17 Request #2
OSM PTS ID: PA-150

Requesting Organization: Montour Run Watershed Association (in-kind partner)
Receiving Stream: West Fork of Enlow Run
Watershed: Montour Run
Municipality/County: Findlay Township, Allegheny County
Latitude/ Longitude: 40°29'31"N / 80°17'26"W

The Montour Run Watershed Association (MRWA) installed the McCaslin Road Passive Treatment System in 2009 to treat an acidic, metal-bearing, discharge from the abandoned Clinton Lake underground coal mine in Findlay Township, Allegheny County, PA. The passive system located on Findlay Township Public Works property consists of an Auto-Flushing Limestone-Only Vertical Flow Pond (AFVFP), a settling pond and a treatment wetland.

Water monitoring conducted in 2016 indicated that the system was not performing well and that the limestone within the AFVFP likely needed to be stirred and washed. The limestone had previously been stirred and washed through the O&M TAG program in September 2012. In June 2017, Findlay Township Public Works volunteered to provide a backhoe, various other equipment, and an operator to complete the maintenance with oversight and assistance provided by BioMost, Inc. As the stone was stirred, metal precipitates were observed within the void spaces and on the stone. By maintaining the water level within the pond through opening and closing the flush valve of the siphon and occasionally flushing a portion of the water into the settling pond, pumping the pond was not necessary. Upon completion of stirring, the flush valve was opened to remove the precipitates from the siphon vault and surrounding stone.

Dan and Tim of Findlay Township were generous with the time they spent in learning about the system as well as the proper methods to stir the stone for future maintenance activities. Tim expressed an interest in future maintenance activities and the possibility of adding more limestone to the AFVFP to maintain alkalinity generation capacity. It is possible that Findlay Township and MRWA may be able to supply the limestone required to return the AFVFP elevation to the design height. As Findlay Township Public Works is willing to provide equipment and operators to assist in maintaining the system in the future, a maintenance schedule has been developed to stir and clean the stone on a yearly basis. At this site, cleaning of the stone should be completed about every 3 years or when the pH of the effluent is below a 6 under normal flow conditions.

The project team thanks the Montour Run Watershed Association, John O'Neil, Tim Cook, and the Findlay Township maintenance staff for their support of this project as well as offering assistance for future rehabilitation and maintenance efforts. Funding for technical assistance and maintenance was provided by the PA DEP's Growing Greener O&M TAG and in-kind volunteer services from the watershed association.



Above: The aluminum and iron-coated limestone aggregate in the Auto-flushing Limestone-only Vertical Flow Pond was cleaned.
Bottom Left: Findlay Township donated equipment and staff time to the effort.
Bottom Right: The raw water inlet pipe was located and cleared of precipitates as feasible.

