

**SR-286 Passive Treatment System**  
**SRI O&M TAG Project #16 Request #1**  
**OSM PTS ID: PA-241**

Requesting Organization: Aultman Watershed Association for Restoring the Environment  
(AWARE) (in-kind partner)  
Kiski-Conemaugh Stream Team  
Receiving Stream: Aultmans Run (Aultmans Run Watershed)  
Hydrologic Order: Aultmans Run→Conemaugh River→Kiskiminetas River→  
Allegheny River→Ohio River  
Municipality/County: Center Township, Indiana County  
Latitude/Longitude: 40°33'23.0004"N / 79°15'33.0012"W  
Construction Year: 2004

Stream Restoration Incorporated (SRI) was contacted by the Aultman Watershed Association for Restoring the Environment (AWARE) in July 2012 to assist in successfully completing several operation and maintenance tasks at the SR-286 Passive Treatment System.

Maintenance was needed for the following items:

- Preferential flow paths had formed within the treatment wetland over time partly due to channels within the forebay level spreader. These channels were created from riprap being removed from several areas of the level spreader, most likely by local children, along with vegetation growing within the forebay.
- The water level within the treatment wetland had lowered due to the deterioration of hay bales placed at the outlet in 2004 in order to increase the storage capacity of iron solids and to reduce short-circuiting.
- The water level in the existing channel wetland had also been lowered due to erosion at the effluent end of the component. In addition, the outlet pipe, installed by hand in order to take flow measurements, was missing apparently also due to erosion forces.
- The Kiski-Conemaugh Stream Team had requested a trail be made to the outlet of the treatment system for monitoring efficiency.

On 9/21/12, a group of AWARE volunteers and Shaun Busler from BioMost, Inc. performed the maintenance at the passive system. A trail was blazed to the outlet of the treatment wetland. To raise the water level in the treatment wetland, approximately 50 feet of 8" compost filter sock was installed by hand at the outlet to replace the deteriorated hay bales. The compost filter sock, a readily-available product used for erosion control, was selected as the longevity is typically greater than for hay bales. In addition, riprap was rearranged and vegetation removed within the forebay level spreader in order to re-establish the water level and to distribute the flow across the entire level spreader.

A replacement pipe was installed at the outlet of the existing wetland channel on 9/21/12; however, high flows within Aultmans Run again carried the pipe downstream. On 4/9/13, with the help of Indiana University of Pennsylvania (IUP) students, concrete bags were carried to the outlet and stacked carefully within the channel in order to help protect the current outlet pipe

from being dislodged by erosive forces. Void spaces between the concrete bags noted during placement were sealed with bentonite chips. A subsequent monitoring event on 4/16/13 indicated that the channel wetland had returned to the design water level and that water was flowing through the outlet pipe.

It is recommended that AWARE continue to monitor the raw discharge, the treatment wetland effluent, and the wetland channel effluent on at least a quarterly basis to determine the necessity of additional maintenance. If needed, additional compost filter sock, proven to create effective baffles in other passive treatment wetlands, may be installed to aid in distributing the flow to all portions of the treatment wetland.

The project team thanks AWARE and the Kiski-Conemaugh Stream Team for all of their efforts including support and assistance. Funding for technical assistance and maintenance was provided by the PA DEP's Growing Greener and the Foundation for Pennsylvania Watersheds grant programs and in-kind services by project partners.



Channelization within the treatment wetland (*top left*) of the SR-286 PTS is apparently in response to the uneven build-up of vegetation within the forebay level spreader. Volunteers helped to replace rocks and to remove vegetation in order to re-establish the level spreader (*top right*). Compost filter socks were installed to replace the hay bales that had been previously installed in 2004 to increase storage capacity of the wetland and to reduce short-circuiting (*bottom left & right*).







Brian Okey, IUP professor and President of AWARE, and Ryan Cunningham, IUP student and AWARE intern (*above*), standing by the hand-installed outlet pipe for flow measurements. Unfortunately, the pipe was apparently washed away during high flow events (*right*). IUP student volunteers helped at the site in April 2013 by carrying and placing bags of concrete to install protection for the new outlet pipe for the existing channel wetland (*below*).







Concrete bags, with bentonite used to seal void spaces between bags, were used on 4/9/13 to protect the existing wetland channel outlet replacement pipe (*above*). On 6/17/13, outlet pipe remained in place and water level had risen (*below*).

