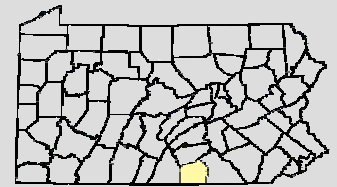


Worksite in Focus

Adams County Miltenberger Road

7/16/05



Problem Identification

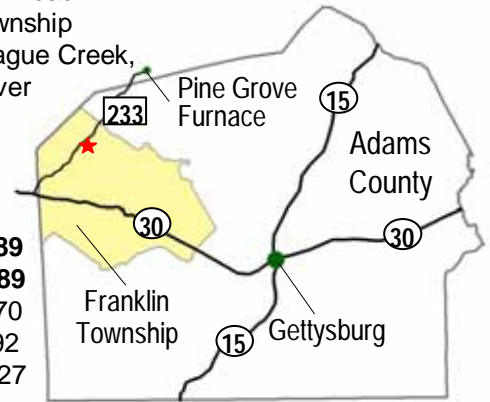
Miltenberger Road was an entrenched road with few outlets for drainage and spring flow to leave the road area. Water was concentrated in parallel ditches and directed 1,200' downhill and under State Route 233 into Conococheague Creek. Water entering the road area had nowhere to go but down the ditches, gaining velocity and erosive force. Adding additional drainage outlets was impossible with the road at an elevation much lower than that of the surrounding landscape. The entrenched road profile also left little room to plow snow (*Photo 1*).

Project Facts

Project: Miltenberger Road
Project Owner: Franklin Township
Watershed: Conococheague Creek,
Potomac River
Project Length: 800 ft
Date Completed: June 2005

Cost Summary

Total Project Value: \$15,689
District Funding: \$15,689
Materials \$670
Equipment \$4,292
Shale \$10,727



Project Objectives

1. Restore natural drainage by raising the road to achieve sheet flow.
2. Reduce stream impact by providing additional outlets for water currently trapped in road ditches.
3. Address maintenance problems such as saturated ditches and lack of space for snow storage.

Project Considerations

Although over 3,000 feet of Miltenberger Road was entrenched, cost limitations only allowed for enough shale to raise about 800 feet of the roadbed. Spring water entered the road profile as subsurface flow. This excess water saturated the road and ditches, softening the road base (*Photo 1*). The land surrounding the road is owned by the Bureau of Forestry.



Photo 1. Notice the ice in the middle of the road from a spring seep. The entrenched road profile made it impossible to get water or snow off of the road.



Photo 2. Pre-fabricated underdrain was used to collect subsurface water from under the road and both ditches.

Miltenberger road was raised an average of 3' using shale fill.



Photo 3. The entrenched road traps water in the road area and conveys it down to the stream. Note the elevation of the road relative to the utility pole on the right compared to *Photo 4*.



Photo 4. The road was elevated to eliminate the ditch on the left and achieve sheet flow. The added material also provided the necessary cover to install new crosspipes.

Project Solutions

Install underdrain: Pre-fabricated underdrain (4" perforate pipe wrapped in geotextile fabric) was placed under the road and ditches to collect subsurface water (*Photo 2*). The underdrain will keep clean subsurface water from mixing with road drainage. It will also reduce maintenance by allowing the road and ditches to dry.

Raise the road elevation: Shale was purchased for use as road fill (*Photos 3 & 4*). The shale was spread with a bulldozer and compacted using a vibratory roller in approximately 8" lifts. The road was filled an average of 3' over an 800' length and tapered into the existing road grade on both ends. Filling the road completely eliminates one ditch, and provides the cover necessary to install crosspipes to outlet water from the remaining ditch (*Photo 5*).

Install crosspipes: Because Miltenberger road was so severely entrenched, no crosspipes existed on the road before this project. Crosspipes were needed to divert drainage into vegetated areas and keep runoff from entering the stream. The new road elevation provided the extra cover needed for two shallow crosspipe installations. These crosspipes were outletted at the existing ground elevation to avoid creating an "outlet trench" into the woods. Gradebreaks were constructed over each crosspipe to obtain adequate pipe cover and divert water from running down the roadway (*photo 5*).



Photo 5. One of two new crosspipes installed. Notice the grade-break in the road over the pipe to get water off the road.

For More Information

The Center for Dirt and Gravel Road Studies

1-866-668-6683 (toll free): www.dirtandgravelroads.org

Adams County Conservation District

(717) 334-0636: user.pa.net/~adamsacd/

Site Map & Directions:

From U.S. Route 30 at Caledonia State Park, follow State Route 233 north approximately 5.5 miles to Miltenberger Road. The worksite begins at the intersection with State Route 233 and continues for 800 feet.

