

# Access Road Erosion Control

## A CSP On-Farm Pilot Project in Mifflin Co.

Various Environmentally Sensitive Maintenance Practices (ESMPs) have been developed to maintain the structural soundness and help control sedimentation problems associated with erosion on access roads.

The purpose of this pilot project is to demonstrate the use of these practices at the farm level. In addition to providing a stable travel surface the practices help protect adjacent natural resources such as streams, wetlands and wildlife.

### **This Pilot Project**

is a Conservation Stewardship Program (CSP) enhancement and consists of the installation, monitoring and publicizing of the results obtained.

The pilot project will last two years and requires the establishment of ESMPs. The producer will conduct three events to publicize the project to other producers.

### **Start Date**

The pilot project needs to be scheduled to start within the first three years of the CSP contract.

### **Participant Share**

The participant is responsible for all aspects of implementation of the project.

The photos show a farm road before and after being treated with an environmentally sensitive maintenance practice (ESMP).



## Some of the Environmentally Sensitive Maintenance Practices recommended for farm roads:

**Crosspipes and Turnouts:** Turnouts (cutouts, bleeders) are intentional openings in the down-slope road bank where the downslope road ditch is outletted away from the road. Crosspipes are open structures placed under the road to provide an outlet for the water collected in the upslope ditch. This practice increases the potential for infiltration and decreases the distance that runoff is transported, effectively disconnecting the roadside drainage system from nearby streams.

**Raising the Road:** “Raising the road” is a technique used on roads that have become entrenched, or sunken, into the surrounding landscape. An entrenched road will collect and retain water from higher surrounding terrain, typically transporting it to the nearest stream. The practice of raising the road involves using fill material to elevate the road so that it is no longer entrenched.

**Grade Break:** A grade break is an intentional high spot in a lane that prevents water from flowing down the road surface by forcing it off to either side. Gradebreaks prevent water from building volume and velocity that will erode the road surface.

**Broad-Based Dip:** A broad-based dip is a gradual dip and associated high spot installed diagonally across a road. The dip function similarly to a grade break to prevent water from flowing down the road, but differs from the grade break as it transports water from one side of the road to another.

**Conveyor Belt Diversions:** Similar in function to a broad-based dip, belt diversions prevent water from flowing down the road and direct runoff to a stable filter area. They consist of a piece of mine belting attached to lumber and buried at an angle in the roadbed. The diversion is buried so that approximately 4” of belt protrudes from the road surface. This belt is flexible enough to allow vehicles to pass, but prevents water from flowing down the road.

**Road Crown:** Proper crown is a road’s first line of defense to effectively drain surface water. Effective road crown is a cross-sectional road shape that prevents water from flowing down the road and includes continuous fall, or slope, from the road center-line to the road edge, or ditch.

**French Mattress:** Similar to a French Drain used for home construction, a French Mattress consists of clean stone wrapped in water-permeable separation fabric. The mattress is used in particularly wet areas and is placed under the road to provide support for the road while allowing the free movement of water through the road base.

**Separation Fabric:** A geotextile material used to reinforce and separate layers of soil. It is often used between different courses of road material to provide separation and support and increase road stability.

**Underdrains:** Underdrains are stone-filled trenches designed to collect subsurface springs and seeps in the road corridor. Underdrains increase road base stability by removing excess water. The result is less rutting, fewer potholes, and longer maintenance cycles. Underdrains also separate clean subsurface water from road runoff.

**Headwalls and Endwalls:** Headwalls and endwalls are constructed protection around the inlet and outlet of crosspipes and stream pipes. These structures prevent erosion around the pipe, support the road edge, and increase the flow capacity of the pipe by reducing turbulence.

For assistance on how to implement any of these practices contact Floyd Ciccolini. Floyd works as a Resource Conservation Specialist for the Mifflin County Conservation District. He can be reached at 717-248-4695.

If you have questions regarding the Conservation Stewardship Program (CSP) please call the county USDA–Natural Resources Conservation Service office .