

Scenario Worksheet

Practice and Scenario Description:

| | |
|---------------------------|---|
| Information Type | Data |
| Region | Delta States |
| State | Louisiana |
| Discipline Group | Agricultural Engineering |
| Practice Code/Name | 362 - Diversion |
| Scenario ID | 2 |
| Scenario Name | Water Bars_Dips |
| Scenario Description | An earthen channel constructed across long slopes with supporting ridge on lower side, to divert runoff off roads/travel ways, and away from gullies, critical erosion areas, construction areas or other sensitive areas in order to prevent concentrated flow down slopes. Outlet may be waterway, culvert, underground outlet, or other suitable stable outlet. Estimated cost is based on a 500 ft section access road and firebreak having a width of 14 ft and slope of 12%. In order to prevent gully erosion a system of 13 water bars and rolling dips each with a 3 ft top width, 4H:1V slope, average height of 1.5 ft and, 20 linear feet (total of 260 LF) are constructed including one on the top where the grade breaks. The quantity of excavation and fill is balanced. |
| Before Practice Situation | Excessive sedimentation and soil erosion as a result of gully, rill and sheet erosion which exceeds "T" from farm fields and other locations. Eroded soil is transported via concentrated flow from natural gullies and ruts from vehicle and/or animal traffic directly to a stream at the base of the slope. |
| After Practice Situation | Water bars and rolling dips are installed along the road at approximately every 5 ft of verticle change and at the top of the hill using a dozer. Field system meets "T" or "clean" storm water runoff is diverted to stable outlets such as prevent concentrated flow along the road. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Underground Outlet (620), Mulching (484), and Subsurface Drainage (606). |
| Scenario Feature Measure | Length of Diversion |
| Scenario Unit | Linear Feet |
| Scenario Typical Size | 260 |

Cost Summary:

| Cost Category | Scenario Cost | Scenario Cost/Unit |
|------------------------------------|---------------|--------------------|
| Materials | \$0.00 | \$0.00 |
| Equipment/Installation | \$295.32 | \$1.14 |
| Labor | \$153.72 | \$0.59 |
| Mobilization | \$133.51 | \$0.51 |
| Acquisition of Technical Knowledge | \$0.00 | \$0.00 |
| Foregone Income | \$0.00 | \$0.00 |
| Total | \$582.55 | \$2.24 |

Cost Details:

| Cost Category | Component ID | Component Name | Component Description | Unit | Price (\$/unit) | Quantity | Cost |
|------------------------|--------------|--------------------------------|---|------|-----------------|----------|----------|
| Equipment/Installation | 929 | Dozer, 80 HP | Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included. | Hour | \$49.22 | 6 | \$295.32 |
| Labor | 233 | Equipment Operators, Heavy | Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons. | Hour | \$25.62 | 6 | \$153.72 |
| Mobilization | 1139 | Mobilization, medium equipment | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | \$133.51 | 1 | \$133.51 |