

Practice: 578 - Stream Crossing

Scenario: #2 - Rip Rap Crossing

Scenario Description: A stabilized area or structure constructed across a stream to provide a travel way for people, livestock, equipment, or vehicles. This practice applies to all land uses where an intermittent or perennial watercourse exists and a ford crossing is desired for livestock, people, and /or equipment. Stream bed in the channel reach containing the crossing must be vertically stable. Scenario is for stabilizing the bottom and slope of a stream channel using Rip Rap, gravel and geotextile. This scenario includes site preparation, dewatering, acquiring and installing rip rap and gravel on channel bottom and approaches. Scenario is based on a 20' wide x 50' long crossing. Use (396) Aquatic Organism Passage when the primary intent is biological concerns, not hydrologic.

Before Situation: Water flow could not cross access road or trail without erosion; or access road or trail could not cross channel.

After Situation: Stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross. Associated practices: (342) Critical Area Planting, (560) Access Road, (575) Animal Trails and Walkways, (566) Recreational Trails and Walkways, (500) Obstruction Removal, or (584) Channel Stabilization.

Scenario Feature Measure: Crossing dimensions

Scenario Unit: Square Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$3,106.83

Scenario Cost/Unit: \$3.11

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Materials

Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic Yard	\$25.57	19	\$485.85
Rock Riprap, Placed with geotextile	44	Rock Riprap, placed with geotextile, includes materials, equipment and labor to transport and place	Cubic Yard	\$60.48	37	\$2,237.58

Labor

Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$29.43	2	\$58.86
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$260.93	1	\$260.93
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Equipment Installation

Excavation, common earth, side cast, large equipment	1227	Bulk excavation and side casting of common earth with hydraulic excavator with less greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$1.72	37	\$63.60
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Practice: 578 - Stream Crossing

Scenario: #4 - Concrete Crossing

Scenario Description: A stabilized area or structure constructed across a stream to provide a travel way for people, livestock, equipment, or vehicles. This practice applies to all land uses where an intermittent or perennial watercourse exists and a ford crossing is desired for livestock, people, and /or equipment. Stream bed in the channel reach containing the crossing must be vertically stable. Scenario is for stabilizing the bottom and slope of a stream channel using concrete. This scenario includes site preparation, dewatering, acquiring and installing gravel and concrete channel bottom and approaches. Scenario is based on a 20' wide x 50' long crossing. Use (396) Aquatic Organism Passage when the primary intent is biological concerns, not hydrologic.

Before Situation: Water flow could not cross access road or trail without erosion; or access road or trail could not cross channel.

After Situation: Stream flow is not impeded and a stable base exists for equipment, people and/or animals to cross. Associated practices: (342) Critical Area Planting, (560) Access Road, (575) Animal Trails and Walkways, (566) Recreational Trails and Walkways, (500) Obstruction Removal, or (584) Channel Stabilization.

Scenario Feature Measure: Crossing dimensions

Scenario Unit: Square Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$7,323.29

Scenario Cost/Unit: \$7.32

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Equipment Installation

Concrete, CIP, formed reinforced	38	Steel reinforced concrete formed and cast-in-placed in formed structures such as walls or suspended slabs by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic Yard	\$427.11	3	\$1,281.33
Concrete, CIP, slab on grade, reinforced	37	Steel reinforced concrete formed and cast-in-placed as a slab on grade by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic Yard	\$274.62	19	\$5,217.83
Excavation, common earth, side cast, large equipment	1227	Bulk excavation and side casting of common earth with hydraulic excavator with less greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$1.72	45	\$77.35

Materials

Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic Yard	\$25.57	19	\$485.85
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$260.93	1	\$260.93
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