Practice: 521B - Pond Sealing or Lining, Soil Dispersant

Scenario #1 - Soil Dispersant, Uncovered

Scenario Description:

Construction of a compacted soil liner, treated with a soil dispersant, to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes incorporation of the dispersant with the soil liner under proper moisture conditions and compaction to the designed liner thickness. Practice implementation may require filter compatibility with the subgrade (graded filter or geotextile).

Before Situation:

In-place soils at site exhibit seepage rates in excess of acceptable limits. Soils are suitable for treatment with dispersants.

After Situation:

Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Feature Measure: Volume of Liner Material

Scenario Unit:: Cubic Yard

Scenario Typical Size: 1613

Total Scenario Cost: $10,788.59

Scenario Cost/Unit: $6.69

Cost Details:

Component Name	ID	Description	Unit	Cost	QTY	Total
Equipment Installation						
Earthfill, Roller Compacted	49	Earthfill, roller or machine compacted, includes equipment and labor	Cubic Yard	$3.81	1613	$6,145.53
Tractor, agricultural, 120 HP	962	Agricultural tractor with horsepower range of 90 to 140. Equipment and power unit costs. Labor not included.	Hour	$47.69	6	$286.14
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$21.53	6	$129.18
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	$40.55	8	$324.40
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$102.60	2	$205.20
Materials						
Soil Dispersant	1490	Soil Amendment (tetrasodium pyrophosphate (TSPP), sodium tripolyphosphate (STPP), or soda ash or approved equivalent)	Ton	$471.47	6.53	$3,078.70
Mobilization						
Mobilization, Material, distance > 50 miles	1043	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	$1.00	408	$408.00
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$211.44	1	$211.44

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Scenario #2 - Soil Dispersant, Covered

Scenario Description:

Construction of a compacted soil liner, treated with a soil dispersant, to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes incorporation of the dispersant with the soil liner under proper moisture conditions, compaction to the designed liner thickness, and placement of soil cover over the treated liner. Practice implementation may require filter compatibility with the subgrade (graded filter or geotextile).

Before Situation:

In-place soils at site exhibit seepage rates in excess of acceptable limits. Soils are suitable for treatment with dispersants.

After Situation:

Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Feature Measure: Volume of Liner Material (includes

Scenario Unit:: Cubic Yard

Scenario Typical Size: 1613

Total Scenario Cost: $16,937.93

Scenario Cost/Unit: $10.50

Cost Details:

Component Name	ID	Description	Unit	Cost	QTY	Total
Equipment Installation						
Earthfill, Roller Compacted	49	Earthfill, roller or machine compacted, includes equipment and labor	Cubic Yard	$3.81	3227	$12,294.87
Tractor, agricultural, 120 HP	962	Agricultural tractor with horsepower range of 90 to 140. Equipment and power unit costs. Labor not included.	Hour	$47.69	6	$286.14
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$21.53	6	$129.18
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	$40.55	8	$324.40
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$102.60	2	$205.20
Materials						
Soil Dispersant	1490	Soil Amendment (tetrasodium pyrophosphate (TSPP), sodium tripolyphosphate (STPP), or soda ash or approved equivalent)	Ton	$471.47	6.53	$3,078.70
Mobilization						
Mobilization, Material, distance > 50 miles	1043	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	$1.00	408	$408.00
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$211.44	1	$211.44