

Practice: 521D - Pond Sealing or Lining, Compacted Clay Treatment

Scenario: #3 - Use On-Site Material

Scenario Description:

Construction of a compacted soil liner, using materials available on-site, to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes compaction of the subgrade and soil liner under proper moisture conditions to the designed liner thickness using materials available at the construction site. Associated practices include PS378, PS313, & other waste water impoundments.

Before Situation:

In-place soils at site exhibit seepage rates in excess of acceptable limits without proper moisture and density control. An adequate quantity of soil suitable for constructing a clay liner without amendments is available on-site.

After Situation:

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

Scenario Feature Measure: Volume of Liner Material (including volume of soil cover, as needed)

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,613

Scenario Cost: \$12,197.59

Scenario Cost/Unit: \$7.56

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Excavation, clay, large equipment, 150 ft	1219	Bulk excavation of clay with dozer >100 HP with average push distance of 150 feet. Includes equipment and labor.	Cubic Yard	\$6.30	807	\$5,084.10
Earthfill, Roller Compacted	49	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$3.93	1613	\$6,339.09
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$508.22	1	\$508.22
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$266.18	1	\$266.18

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Scenario: #4 - Use On-site Material with Soil Cover

Scenario Description:

Construction of a compacted soil liner, treated with compacted clay, to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes compaction of the soil liner under proper moisture conditions to the designed liner thickness, and soil cover to protect the finished liner using materials available at the construction site. Associated practices include PS378, PS313, & other waste water impoundments.

Before Situation:

In-place soils at site exhibit seepage rates in excess of acceptable limits. An adequate quantity of soil suitable for constructing a clay liner without amendments is available on-site.

After Situation:

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

Scenario Feature Measure: Volume of Liner Material (including volume of soil cover, as needed)

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,420

Scenario Cost: \$14,804.20

Scenario Cost/Unit: \$6.12

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Excavation, clay, large equipment, 150 ft	1219	Bulk excavation of clay with dozer >100 HP with average push distance of 150 feet. Includes equipment and labor.	Cubic Yard	\$6.30	807	\$5,084.10
Earthfill, Dumped and Spread	51	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$3.23	807	\$2,606.61
Earthfill, Roller Compacted	49	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$3.93	1613	\$6,339.09
Mobilization						
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$508.22	1	\$508.22
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$266.18	1	\$266.18