

Practice: 521A - Pond Sealing or Lining, Flexible Membrane

Scenario # 1 Flexible Liner with leak detection line

New York

Scenario Description: Actual Scenario # 1

A flexible, geosynthetic membrane liner is installed to prevent seepage from waste storage impoundment structures. A leak detection line, geotextile to cushion liner from subgrade damage, and a liner with vents anchored around the top of an earthen pond are installed.

Associated practices include Pond (378), Waste Storage Facility(313), Heavy Use Area Protection (561), Critical Area Planting (342), Access Road (560) Waste Transfer (634) Underground Ground Outlet (620) and Fence (382)

Before Practice Situation:

Soils on-site exhibit seepage rates in excess of acceptable limits. If not lined, soils will allow the passage of nutrients and pathogens from the waste storage facility or pond negatively impacting water quality.

After Practice Situation:

A 60mil, HPDE flexible liner is installed after a leak detection line is placed. The entire area is covered with geotextile. The measurement is based on the neatline of square feet of material installed to inside top slope. Environmental protection is provided by avoiding seepage losses from waste storage impoundments.

Scenario Feature Measure:

Surface area of Liner Material (To Inside top of slope)

Scenario Typical Size:	21700	Square Foot	Tot Unit Cost	\$1.61
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Synthetic Liner, 40 mil	2420	Square Yard	\$5.65	\$13,673.00
Materials	Pipe, PVC, 4", SCH 40	300	Foot	\$3.96	\$1,188.00
Materials	Aggregate, Sand, Graded, Washed	45	Cubic yard	\$29.81	\$1,341.45
Equip./Install.	Front End Loader, 185 HP	4	Hour	\$104.12	\$416.48
Equip./Install.	Roller, vibratory, towed	4	Hour	\$62.46	\$249.84
Equip./Install.	Skidsteer, 80 HP	32	Hour	\$47.33	\$1,514.56
Equip./Install.	Geotextile, woven	2420	Square Yard	\$2.48	\$6,001.60
Equip./Install.	Hydraulic Excavator, .5 CY	8	Hour	\$61.42	\$491.36
Labor	Specialist Labor	64	Hour	\$105.46	\$6,749.44
Labor	Skilled Labor	8	Hour	\$39.82	\$318.56
Labor	Equipment Operators, Light	40	Hour	\$24.05	\$962.00
Labor	Supervisor or Manager	16	Hour	\$45.77	\$732.32
Labor	Equipment Operators, Heavy	12	Hour	\$36.55	\$438.60
Mobilization	Mobilization, medium equipment	3	Each	\$282.78	\$848.34

Total Cost: \$34,925.55

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$1.21	EQIP-HU	\$1.45
WHIP	\$0.00	WHIP-HU	\$0.00