

Practice: 575 - Trails and Walkways

Scenario: #3 - Reinforced Concrete Walkway

Scenario Description:

Layout and construct an reinforced concrete walkway on a gravel foundation to facilitate the movement of animals, people, or off-road vehicles to provide or improve access to forage, water, working/handling facilities, and/or shelter; improve grazing efficiency and distribution; protect ecologically sensitive, erosive and/or potentially erosive sites; provide pedestrian or off-road vehicle access to agricultural, construction, or maintenance operations; provide walkways for recreational activities or access to recreation sites; and address the resource concerns of soil erosion and water quality degradation. Costs include excavation, shaping, grading, reinforced concrete surfacing, vegetation of disturbed areas, and all equipment, labor and incidental materials necessary to install the practice.

Before Situation:

This practice applies on all lands where management of animal or human movement is needed to address soil erosion and water quality resource concerns. This practice applies to a trails or walkways constructed for use by off-road vehicles, such as All-Terrain Vehicles or snowmobiles, which are not designed for use on public roads. It does not apply to roads constructed for movement of equipment or vehicles. Use NRCS Conservation Practice Standard Access Road (Code 560).

After Situation:

The typical walkway will be a 12 foot wide 300 foot long, 3600 square foot of reinforced concrete. All excavation, grading and shaping necessary to provide a smooth permanent travel surface for livestock or people is included. Included is reinforced concrete of 3600 square foot for surfacing, and vegetation of 1800 square foot of disturbed areas. The walkway consist of approximately 89 CY of excavation, 62 CY of reinforced concrete with a 45 CY gravel foundation. Stream Crossing (Code 578) will be used when the walkway crosses streams or shallow water areas. All culverts for drainageways will be applied under Structure for Water Control (Code 587). Use Access Road (Code 560) and Diversion (Code 362) as appropriate. Fencing (Code 382) will be used when needed to control animal movement. The surface material for a trail of walkway will be designed in accordance with the criteria in Heavy Use Area Protection (Code 561) but all materials are included in this scenario.

Scenario Feature Measure: Area of Walkway

Scenario Unit: Square Foot

Scenario Typical Size: 3,600

Scenario Cost: \$11,503.59

Scenario Cost/Unit: \$3.20

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, Broadcast, Ground	959	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	\$12.42	0.3	\$3.73
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$38.64	8	\$309.12
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	\$121.55	62	\$7,536.10
Dozer, 80 HP	929	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$69.85	8	\$558.80
Excavation, Common Earth, side cast, small equipment	48	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$1.96	89	\$174.44
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	\$25.16	8	\$201.28
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$19.21	8	\$153.68
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$27.01	8	\$216.08

Materials

Nitrogen (N), Ammonium Nitrate	69	Price per pound of N supplied by Ammonium Nitrate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$1.00	16	\$16.00
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$40.06	45	\$1,802.70
Phosphorus, P2O5	73	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	20	\$15.60
Potassium, K2O	74	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.59	20	\$11.80
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$143.05	0.6	\$85.83
Straw	1237	Small grain straw (non organic and certified organic). Includes materials only.	Ton	\$118.54	0.8	\$94.83
Three Species Mix, Cool Season, Native Perennial Grass	2316	Cool season, native grass mix. Includes material and shipping only.	Acre	\$144.58	0.4	\$57.83

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$265.77	1	\$265.77
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Practice: 575 - Trails and Walkways

Scenario: #4 - Rock/Gravel on Geotextile, Walkway

Scenario Description:

Layout and construct a walkway with rock and or gravel on a geotextile fabric foundation surface treatment, to facilitate the movement of animals, people, or off-road vehicles to provide or improve access to forage, water, working/handling facilities, and/or shelter; improve grazing efficiency and distribution; protect ecologically sensitive, erosive and/or potentially erosive sites; provide pedestrian or off-road vehicle access to agricultural, construction, or maintenance operations; provide walkways for recreational activities or access to recreation sites; and address the resource concerns of soil erosion and water quality degradation. Costs include excavation, shaping, grading, rock and or gravel, geotextile, vegetation of disturbed areas, and all equipment, labor and incidental materials necessary to install the practice.

Before Situation:

This practice applies on all lands where management of animal or human movement is needed to address soil erosion and water quality resource concerns. This practice applies to a trails or walkways constructed for use by off-road vehicles, such as All-Terrain Vehicles or snowmobiles, which are not designed for use on public roads. It does not apply to roads constructed for movement of equipment or vehicles. Use NRCS Conservation Practice Standard Access Road (Code 560).

After Situation:

The typical walkway will be a 12 foot wide 300 foot long, 3600 square foot of rock and or gravel on a geotextile fabric foundation surface treatment. All excavation, grading and shaping necessary to provide a smooth permanent travel surface for livestock or people is included. Included is aggregate gravel of 3600 square foot for surfacing, and vegetation of 1800 square foot of disturbed areas. The walkway consist of approximately 67 CY of excavation, 67 CY of aggregate gravel on a 400 SY of geotextile fabric foundation. Stream Crossing (Code 578) will be used when the walkway crosses streams or shallow water areas. All culverts for drainageways will be applied under Structure for Water Control (Code 587). Use Access Road, Code 560 and Diversion (362) as appropriate. Fencing, Code 382, will be used when needed to control animal movement. The surface material for a trail of walkway will be designed in accordance with the criteria in Heavy Use Area Protection (Code 561) but all materials are included in this scenario.

Scenario Feature Measure: Area of Walkway

Scenario Unit: Square Foot

Scenario Typical Size: 3,600

Scenario Cost: \$5,503.90

Scenario Cost/Unit: \$1.53

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Geotextile, woven	42	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	\$2.25	400	\$900.00
Dozer, 80 HP	929	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$69.85	8	\$558.80
Seeding Operation, Broadcast, Ground	959	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	\$12.42	0.3	\$3.73
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$38.64	8	\$309.12
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$27.01	8	\$216.08
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$19.21	8	\$153.68
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	\$25.16	8	\$201.28
Materials						
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$40.06	67	\$2,684.02

Materials

Nitrogen (N), Ammonium Nitrate	69	Price per pound of N supplied by Ammonium Nitrate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$1.00	12	\$12.00
Phosphorus, P2O5	73	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	15	\$11.70
Potassium, K2O	74	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.59	15	\$8.85
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$143.05	0.45	\$64.37
Three Species Mix, Cool Season, Native Perennial Grass	2316	Cool season, native grass mix. Includes material and shipping only.	Acre	\$144.58	0.3	\$43.37
Straw	1237	Small grain straw (non organic and certified organic). Includes materials only.	Ton	\$118.54	0.6	\$71.12

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$265.77	1	\$265.77
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