

Practice: 382 - Fence

Scenario: #1 - Barbed or Smooth Wire

Scenario Description:

A multi-strand, non-electric barbed or smooth wire fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. The gate is constructed using fencing materials rather than a pre-manufactured gate.

Associated Practices: Animal Trail or Walkway (575), Grass Waterway (412), Livestock Pipeline (516), Prescribed Grazing (528), Pond (378), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Spring Development (574), Streambank or Shoreline Protection (580), Stream Crossing (578), Use Exclusion (472), Waste Water Treatment Strip (635), Water and Sediment Control Basin (638), Watering Facility (614), and Water Well (642)

Before Situation:

Plant health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods on grazing lands. Water quality is impacted by increased erosion and runoff. Livestock have uncontrolled access to water bodies. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds.

After Situation:

A multi-strand, non-electric barbed or smooth wire fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Fence installation includes all posts, wire, fasteners, gates, and other necessary components. Typical installation is based on a four strand common installation. The fence is installed with consideration to wildlife.

Scenario Feature Measure: Length of Fence

Scenario Unit: Feet

Scenario Typical Size: 2,000

Scenario Cost: \$3,823.71

Scenario Cost/Unit: \$1.91

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	5	\$211.95
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$9.54	14	\$133.56
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$26.74	14	\$374.36
Labor						
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	\$20.77	36	\$747.72
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.97	14	\$321.58
Materials						
Wire, Barbed, Galvanized, 12.5 Gauge, 1,320' roll	1	Galvanized 12.5 gauge, 1,320' roll. Includes materials and shipping only.	Each	\$70.53	6	\$423.18
Post, Wood, CCA treated, 4" x 8'	10	Wood Post, Line 4" X 8', CCA Treated. Includes materials and shipping only.	Each	\$7.99	38	\$303.62
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.96	44	\$658.24
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$164.75	2	\$329.50
Fence, Wire Assembly, Barbed Wire	30	Brace pins, battens, clips, staples. Includes materials and shipping only.	Foot	\$0.16	2000	\$320.00

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Scenario: #2 - Woven Wire

Scenario Description:

A woven wire fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. A woven wire fence is typically used in applications with sheep, goats, horses, wildlife exclusion, and shelterbelt/tree protection. Entire fence is constructed using fencing material rather than pre-manufactured panels.

Associated Practices: Animal Trail or Walkway (575), Grass Waterway (412), Livestock Pipeline (516), Prescribed Grazing (528), Pond (378), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Spring Development (574), Streambank or Shoreline Protection (580), Stream Crossing (578), Use Exclusion (472), Waste Water Treatment Strip (635), Water and Sediment Control Basin (638), Watering Facility (614), and Water Well (642)

Before Situation:

Plant health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods on grazing lands. Water quality is impacted by increased erosion and runoff. Livestock have uncontrolled access to water bodies. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds.

After Situation:

A woven wire fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Woven wire fence installation includes all posts, wire, fasteners, gates, and other necessary components. A woven wire fence is typically used in applications with sheep, goats, wildlife exclusion, and shelterbelt/tree protection. The fence is installed with consideration to wildlife.

Scenario Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 2,640

Scenario Cost: \$8,531.28

Scenario Cost/Unit: \$3.23

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$26.74	35	\$935.90
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	5	\$211.95
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$9.54	35	\$333.90
Labor						
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	\$20.77	76	\$1,578.52
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.97	35	\$803.95
Materials						
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.96	44	\$658.24
Post, Wood, CCA treated, 4" x 8'	10	Wood Post, Line 4" X 8', CCA Treated. Includes materials and shipping only.	Each	\$7.99	168	\$1,342.32
Wire, Woven, Galvanized, 12.5 Gauge, 48"	4	Galvanized 12.5 gauge, 48" - 330' roll. Includes materials and shipping only.	Each	\$249.98	8	\$1,999.84
Wire, Barbed, Galvanized, 12.5 Gauge, 1,320' roll	1	Galvanized 12.5 gauge, 1,320' roll. Includes materials and shipping only.	Each	\$70.53	2	\$141.06
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$164.75	2	\$329.50
Mobilization						

Mobilization

Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$196.10	1	\$196.10
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Scenario: #3 - Electric 2 strand

Scenario Description:

A two strand, electric fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. A two strand electric fence is typically used on dairy operations.

Associated Practices: Animal Trail or Walkway (575), Grass Waterway (412), Livestock Pipeline (516), Prescribed Grazing (528), Pond (378), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Spring Development (574), Streambank or Shoreline Protection (580), Stream Crossing (578), Use Exclusion (472), Waste Water Treatment Strip (635), Water and Sediment Control Basin (638), Watering Facility (614), and Water Well (642)

Before Situation:

Plant health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods on grazing lands. Water quality is impacted by increased erosion and runoff. Livestock have uncontrolled access to water bodies. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds.

After Situation:

A two strand, electric fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Installation includes all posts, wire, fasteners, gates, fence energizer, and other incidental necessary components. The fence is installed with consideration to wildlife.

Scenario Feature Measure: Length of Fence

Scenario Unit: Feet

Scenario Typical Size: 2,000

Scenario Cost: \$3,146.81

Scenario Cost/Unit: \$1.57

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$26.74	9.5	\$254.03
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	2	\$84.78
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$9.54	9.5	\$90.63
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.97	9.5	\$218.22
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	\$20.77	28	\$581.56
Materials						
Electric, Insulated cable	23	Electric, Insulated cable for electric fence. Typically in spools of 100 to 200 feet. Includes materials and shipping only.	Each	\$29.70	1	\$29.70
Electric, Lightning Diverter	22	Electric, Lightning diverter for electric fence. Includes materials and shipping only.	Each	\$10.17	1	\$10.17
Electric, Ground Rod Clamps	21	Electric, Ground Rod Clamps for electric fence. Includes materials and shipping only.	Each	\$1.79	7	\$12.53
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.96	32	\$478.72
Post, Wood, CCA treated, 3-4" x 7'	9	Wood Post, Line 3-4" X 7', CCA Treated. Includes materials and shipping only.	Each	\$6.20	25	\$155.00
Electric, Power Surge Protector	24	Electric, Power Surge Protector for electric fence. Includes materials and shipping only.	Each	\$9.55	1	\$9.55

Materials

Electric, Ground Rods	20	Electric, Ground Rod for electric fence. Includes materials and shipping only.	Each	\$10.41	7	\$72.87
Electric, Tester	26	Electric, Tester for electric fence. Includes materials and shipping only.	Each	\$40.76	1	\$40.76
Electric, Energizer, 6 joule	29	Electric, Energizer, 6 joule for electric fence. Includes materials and shipping only.	Each	\$321.21	1	\$321.21
Fence, Wire Assembly, High Tensile, Electric, 2 Strand	33	Brace pins, springs, strainers, battens, clips, crimp sleeves, staples, insulators, wrap around sleeves. Includes materials and shipping only.	Foot	\$0.07	2000	\$140.00
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$164.75	2	\$329.50
Wire, High Tensile, 12.5 Gauge, 4,000' roll	2	High Tensile 12.5 gauge, 4,000' roll. Includes materials and shipping only.	Each	\$113.03	1	\$113.03
Electric, Cutoff Switch	25	Electric, Cutoff Switch for electric fence. Includes materials and shipping only.	Each	\$8.45	1	\$8.45

Mobilization

Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$196.10	1	\$196.10
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Practice: 382 - Fence

Scenario: #4 - Electric 3 strand

Scenario Description:

A three strand, electric fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. A three strand electric fence is typically used on beef operations.

Associated Practices: Animal Trail or Walkway (575), Grass Waterway (412), Livestock Pipeline (516), Prescribed Grazing (528), Pond (378), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Spring Development (574), Streambank or Shoreline Protection (580), Stream Crossing (578), Use Exclusion (472), Waste Water Treatment Strip (635), Water and Sediment Control Basin (638), Watering Facility (614), and Water Well (642)

Before Situation:

Plant health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods on grazing lands. Water quality is impacted by increased erosion and runoff. Livestock have uncontrolled access to water bodies. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds.

After Situation:

A three strand, electric fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Installation includes all posts, wire, fasteners, gates, fence energizer, and other incidental necessary components. The fence is installed with consideration to wildlife.

Scenario Feature Measure: Length of fence

Scenario Unit: Foot

Scenario Typical Size: 2,000

Scenario Cost: \$4,008.06

Scenario Cost/Unit: \$2.00

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$9.54	13.5	\$128.79
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$26.74	13.5	\$360.99
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	2	\$84.78
Labor						
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	\$20.77	32	\$664.64
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.97	13.5	\$310.10
Materials						
Electric, Ground Rods	20	Electric, Ground Rod for electric fence. Includes materials and shipping only.	Each	\$10.41	7	\$72.87
Fence, Wire Assembly, High Tensile, Electric, 3 Strand	34	Brace pins, springs, strainers, battens, clips, crimp sleeves, staples, insulators, wrap around sleeves. Includes materials and shipping only.	Foot	\$0.12	2000	\$240.00
Electric, Energizer, 6 joule	29	Electric, Energizer, 6 joule for electric fence. Includes materials and shipping only.	Each	\$321.21	1	\$321.21
Electric, Tester	26	Electric, Tester for electric fence. Includes materials and shipping only.	Each	\$40.76	1	\$40.76
Post, Wood, CCA treated, 4" x 8'	10	Wood Post, Line 4" X 8', CCA Treated. Includes materials and shipping only.	Each	\$7.99	38	\$303.62
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.96	44	\$658.24

Materials

Electric, Insulated cable	23	Electric, Insulated cable for electric fence. Typically in spools of 100 to 200 feet. Includes materials and shipping only.	Each	\$29.70	1	\$29.70
Electric, Cutoff Switch	25	Electric, Cutoff Switch for electric fence. Includes materials and shipping only.	Each	\$8.45	1	\$8.45
Electric, Ground Rod Clamps	21	Electric, Ground Rod Clamps for electric fence. Includes materials and shipping only.	Each	\$1.79	7	\$12.53
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$164.75	2	\$329.50
Wire, High Tensile, 12.5 Gauge, 4,000' roll	2	High Tensile 12.5 gauge, 4,000' roll. Includes materials and shipping only.	Each	\$113.03	2	\$226.06
Electric, Power Surge Protector	24	Electric, Power Surge Protector for electric fence. Includes materials and shipping only.	Each	\$9.55	1	\$9.55
Electric, Lightening Diverter	22	Electric, Lightening diverter for electric fence. Includes materials and shipping only.	Each	\$10.17	1	\$10.17

Mobilization

Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$196.10	1	\$196.10
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Practice: 382 - Fence

Scenario: #5 - Electric - 4 or more strands

Scenario Description:

A four or more strand, electric fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. A four strand electric fence is typically used for goats, sheep, llamas, hogs or humans. Typical installation is based on a 5 strand electric fence.

Associated Practices: Animal Trail or Walkway (575), Grass Waterway (412), Livestock Pipeline (516), Prescribed Grazing (528), Pond (378), Riparian Forest Buffer (391), Riparian Herbaceous Cover (390), Spring Development (574), Streambank or Shoreline Protection (580), Stream Crossing (578), Use Exclusion (472), Waste Water Treatment Strip (635), Water and Sediment Control Basin (638), Watering Facility (614), and Water Well (642)

Before Situation:

Plant health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods on grazing lands. Water quality is impacted by increased erosion and runoff. Livestock have uncontrolled access to water bodies. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds.

After Situation:

A four or more strand, electric fence is installed to allow for implementation of a grazing management system that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Installation includes all posts, wire, fasteners, gates, fence energizer, and other incidental necessary components. The fence is installed with consideration to wildlife.

Scenario Feature Measure: Length of fence

Scenario Unit: Foot

Scenario Typical Size: 2,000

Scenario Cost: \$5,087.22

Scenario Cost/Unit: \$2.54

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Fence, Wire Assembly, High Tensile Electric, 5 Strand	1087	Brace pins, springs, strainers, battens, clips, crimp sleeves, staples, insulators, wrap around sleeves. Includes materials and shipping only.	Foot	\$0.18	2000	\$360.00
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$26.74	19	\$508.06
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	2	\$84.78
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$9.54	19	\$181.26
Labor						
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	\$20.77	34	\$706.18
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.97	19	\$436.43
Materials						
Electric, Ground Rod Clamps	21	Electric, Ground Rod Clamps for electric fence. Includes materials and shipping only.	Each	\$1.79	7	\$12.53
Electric, Lightning Diverter	22	Electric, Lightning diverter for electric fence. Includes materials and shipping only.	Each	\$10.17	1	\$10.17
Electric, Insulated cable	23	Electric, Insulated cable for electric fence. Typically in spools of 100 to 200 feet. Includes materials and shipping only.	Each	\$29.70	1	\$29.70
Electric, Power Surge Protector	24	Electric, Power Surge Protector for electric fence. Includes materials and shipping only.	Each	\$9.55	1	\$9.55
Electric, Cutoff Switch	25	Electric, Cutoff Switch for electric fence. Includes materials and shipping only.	Each	\$8.45	1	\$8.45

Materials

Electric, Tester	26	Electric, Tester for electric fence. Includes materials and shipping only.	Each	\$40.76	1	\$40.76
Electric, Energizer, 6 joule	29	Electric, Energizer, 6 joule for electric fence. Includes materials and shipping only.	Each	\$321.21	1	\$321.21
Wire, High Tensile, 12.5 Gauge, 4,000' roll	2	High Tensile 12.5 gauge, 4,000' roll. Includes materials and shipping only.	Each	\$113.03	3	\$339.09
Post, Wood, CCA treated, 4" x 8'	10	Wood Post, Line 4" X 8', CCA Treated. Includes materials and shipping only.	Each	\$7.99	38	\$303.62
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.96	76	\$1,136.96
Electric, Ground Rods	20	Electric, Ground Rod for electric fence. Includes materials and shipping only.	Each	\$10.41	7	\$72.87
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$164.75	2	\$329.50

Mobilization

Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$196.10	1	\$196.10
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Practice: 382 - Fence

Scenario: #6 - Safety or Confinement Fence

Scenario Description:

A barrier fence is installed around an NRCS constructed practice such as a waste storage system or heavy use area according to engineering design to exclude human or livestock access. The fence is permanently installed to 1) Keep humans away from waste ponds and lagoons or 2) to protect sensitive areas (Riparian areas, wetlands, springs, etc.) from heavy livestock pressure. A heavy grade fence material and close post space is required for proper installation.

Associated Practices: Pond (378), Solid/Liquid Waste Separation Facility (632), Heavy Use Area Protection (561), Waste Storage Facility (313), Waste Transfer (634)

Before Situation:

An NRCS designed and constructed practice, such as a waste storage pond, is planned posing significant risk to human safety if not addressed. Livestock have access to sensitive areas that may cause detrimental effect to animal/human health and wildlife habitat. Resource concerns that need to be addressed are plant health and vigor, wildlife habitat, compaction of soils, runoff of sediment, and water quality due to turbidity.

After Situation:

Humans and livestock are excluded from the constructed practice, such as a waste storage pond, for safety purposes. A barrier fence is installed around the entire holding pond or livestock are kept away from a hydrologically sensitive area on a newly constructed heavy use area. The fence is typically five strand high tensile wire with close spacing. Improved livestock control and access to water or other sensitive areas promotes safety for livestock and humans, improves health and vigor of sensitive species, and limits soil erosion.

Scenario Feature Measure: Length of Fence

Scenario Unit: Feet

Scenario Typical Size: 450

Scenario Cost: \$2,156.95

Scenario Cost/Unit: \$4.79

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Fence, Wire Assembly, High Tensile Electric, 5 Strand	1087	Brace pins, springs, strainers, battens, clips, crimp sleeves, staples, insulators, wrap around sleeves. Includes materials and shipping only.	Foot	\$0.18	450	\$81.00
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$26.74	9	\$240.66
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$9.54	9	\$85.86
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	2	\$84.78
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.97	9	\$206.73
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	\$20.77	14	\$290.78
Materials						
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$164.75	1	\$164.75
Wire, High Tensile, 12.5 Gauge, 4,000' roll	2	High Tensile 12.5 gauge, 4,000' roll. Includes materials and shipping only.	Each	\$113.03	1	\$113.03
Post, Wood, CCA treated, 4" x 8'	10	Wood Post, Line 4" X 8', CCA Treated. Includes materials and shipping only.	Each	\$7.99	10	\$79.90
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.96	41	\$613.36
Mobilization						

Mobilization

Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$196.10	1	\$196.10
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Practice: 382 - Fence

Scenario: #7 - Chain Link

Scenario Description:

A chain link fence is installed around an NRCS constructed practice where significant hazards exist such as a vertical wall, concrete storage tank. The safety concerns and risks associated with this type of tank are too great to risk accidental drowning and therefore, a guaranteed strong fence is need for this critical exclusion fence. The fence is permanently installed to keep humans (small children) away from waste ponds and lagoons. A heavy grade fence material and close post space is required for proper installation. The chain link fence is constructed securely in concrete and can withstand greater pressure. Chain link fence is only used in a limited number of circumstances where those significant hazards make it too great to risk endangering people and/or livestock.

Associated Practices: Pond (378), Solid/Liquid Waste Separation Facility (632), Heavy Use Area Protection (561), Waste Storage Facility (313), Waste Transfer (634)

Before Situation:

An NRCS designed and constructed practice, such as a waste storage pond, is planned posing significant risk to human safety if not addressed. Livestock need to be excluded using a strong fence to ensure exclusion from location to prevented drowning and/or other detrimental effect to animal/human health and wildlife habitat. Resource concerns that need to be addressed are plant health and vigor, wildlife habitat, compaction of soils, runoff of sediment, and water quality due to turbidity.

After Situation:

Humans and livestock are excluded from the constructed practice for safety purposes and to prevent accidental drowning. A chain link fence is installed securely in concrete around the entire holding pond. The fence is typically 200 feet long with one gate and is installed by a fencing contractor. Improved livestock control and access to water or other sensitive areas promotes safety for livestock and humans, improves health and vigor of sensitive species, and limits soil erosion.

Scenario Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 200

Scenario Cost: \$3,083.98

Scenario Cost/Unit: \$15.42

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	2	\$84.78
Labor						
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	\$20.77	8	\$166.16
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	\$41.91	1	\$41.91
Materials						
Gate, Chain Link, 18', Slide Gate	1081	Chain Link Gate, 18 ' Wide X 5' Tall, Installed in Concrete	Each	\$146.67	1	\$146.67
Fence, Chain Link	1079	Fence, Chain Link, 5' High, 9 ga Wire, Posts in Concrete on 10' Centers. Includes all materials, equipment and labor.	Foot	\$14.53	182	\$2,644.46

Practice: 382 - Fence

Scenario: #7 - 8 foot Wildlife Exclusion Fence

Scenario Description:

An 8 foot, woven wire wildlife exclusion fence is installed following a harvest of an established woodlot according to a Forest management Plan where intense wildlife pressure exists. The canopy is sufficiently opened to allow understory of regeneration of desired tree species, but high wildlife density poses a browse threat to new seedlings and regrowth. An 8 foot wildlife exclusion fence is installed to restrict access to the site to allow regeneration to occur.

Before Situation:

A forest with a recent harvest as per a Forest Management Plan and sufficient canopy for regeneration is threatened by browse of high wildlife density causing undesirable plant species and lack of desirable understory.

After Situation:

An 8 foot high, woven wire wildlife exclusion fence is installed following a harvest of an established woodlot according to a Forest Management Plan. With a sufficient canopy opening, wildlife exclusion from the site allows for regeneration of desirable plant species and understory composition. Productivity, Health, and Vigor is enhanced.

Scenario Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 3,614

Scenario Cost: \$15,049.72

Scenario Cost/Unit: \$4.16

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$26.74	30	\$802.20
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$9.54	30	\$286.20
Fence, Wire Assembly, Woven Wire, Game Fence	1088	Brace pins, twist sticks, staples. Includes materials and shipping only.	Foot	\$0.24	3600	\$864.00
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.97	30	\$689.10
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	\$20.77	60	\$1,246.20
Materials						
Post, Wood, CCA treated, 6" x 12-14'	13	Wood Post, Line/End 6" X 12-14', CCA Treated. Includes materials and shipping only.	Each	\$26.73	200	\$5,346.00
Wire, Woven, Wildlife, 96"	6	High Tensile 12.5 gauge, 96" - 330' roll. Includes materials and shipping only.	Each	\$451.18	11	\$4,962.98
Property/Safety Signs	293	Plastic Fence safety or property sign - Printed on both sides 6 pre-drilled holes for hanging or nailing. 7.5" x 4.75". Includes materials and shipping only.	Each	\$1.41	35	\$49.35
Gate, Game, 8' High X 14'	1085	14' Wide Game Gate (8' Tall). Includes materials and shipping only.	Each	\$381.53	1	\$381.53
Wire, High Tensile, 12.5 Gauge, 4,000' roll	2	High Tensile 12.5 gauge, 4,000' roll. Includes materials and shipping only.	Each	\$113.03	2	\$226.06
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$196.10	1	\$196.10

Practice: 382 - Fence

Scenario: #8 - 8 foot netted Wildlife Exclusion Fence, Wooded

Scenario Description:

Excluding animals from an area in order to address identified resource concerns. This is for facilitating exclusion of animals to protect or enhance natural resource values. Control will be by woven wire or poly deer netting rated for 10 to 15 years. To the extent possible, fence will be attached to suitable trees with some posts as needed. Any need for permanent fencing will be planned and installed using the Fence practice (382). Clearing of brush and trees is not necessary. Resource concerns include Wildlife Habitat degradation, Undesirable plant productivity and health, and/or Excessive sediment in surface waters.

Before Situation:

Sensitive areas are threatened by the adverse actions of wild animals. The importance of the sensitive areas can include (but are not limited to): wildlife habitat, plant species composition, newly established trees and/or plants, stream bank stability, and/or water quality.

After Situation:

Sensitive areas are protected from the adverse actions of domestic and/or wild animals by excluding them from the area.

Scenario Feature Measure: Length of fence

Scenario Unit: Foot

Scenario Typical Size: 3,600

Scenario Cost: \$7,336.82

Scenario Cost/Unit: \$2.04

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$42.39	4	\$169.56
Labor						
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	\$20.77	4	\$83.08
Materials						
Post, Steel T, 1.33 lbs, 10'	17	Steel Post, Studded 10' - 1.33 lb. Includes materials and shipping only.	Each	\$10.83	100	\$1,083.00
Wire, Woven, Wildlife, 96"	6	High Tensile 12.5 gauge, 96" - 330' roll. Includes materials and shipping only.	Each	\$451.18	11	\$4,962.98
Post, Wood, CCA treated, 6" x 12-14'	13	Wood Post, Line/End 6" X 12-14', CCA Treated. Includes materials and shipping only.	Each	\$26.73	6	\$160.38
Gate, Game, 8' High X 4'	1082	4' Wide Game Gate (8' Tall). Includes materials and shipping only.	Each	\$200.37	1	\$200.37
Property/Safety Signs	293	Plastic Fence safety or property sign - Printed on both sides 6 pre-drilled holes for hanging or nailing. 7.5" x 4.75". Includes materials and shipping only.	Each	\$1.41	35	\$49.35
Fence, Wire Assembly, Woven Wire	35	Brace pins, twist sticks, staples. Includes materials and shipping only.	Foot	\$0.12	3600	\$432.00
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$196.10	1	\$196.10