

Practice: 382 - Fence

Scenario: #1 - Multi Strand Barbed/Smooth Wire

Scenario Description:

Multi-strand, Barbed or Smooth Wire - Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Constructed using fencing materials rather than a pre-manufactured gate.

Before Situation:

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

After Situation:

Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Fence includes posts, wire, fasteners, gates, etc... Four strand wire is commonly installed. Fence will be installed with wildlife friendly considerations.

Scenario Feature Measure: Length of Fence

Scenario Unit: Feet

Scenario Typical Size: 1,320

Scenario Cost: \$2,763.29

Scenario Cost/Unit: \$2.09

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	\$39.91	5	\$199.55
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$25.17	5	\$125.85
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$8.98	5	\$44.90
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.19	5	\$95.95
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	\$18.92	33	\$624.36
Materials						
Fence, Wire Assembly, Barbed Wire	30	Brace pins, battens, clips, staples. Includes materials and shipping only.	Foot	\$0.16	1320	\$211.20
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$160.77	1	\$160.77
Wire, Barbed, Galvanized, 12.5 Gauge, 1,320' roll	1	Galvanized 12.5 gauge, 1,320' roll. Includes materials and shipping only.	Each	\$68.83	4	\$275.32
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.60	8	\$116.80
Post, Wood, CCA treated, 3-4" x 7'	9	Wood Post, Line 3-4" X 7', CCA Treated. Includes materials and shipping only.	Each	\$6.05	20	\$121.00
Post, Steel T, 1.33 lbs, 6'	15	Steel Post, Studded 6' - 1.33 lb. Includes materials and shipping only.	Each	\$6.46	90	\$581.40
Vinyl Undersill Strips	241	Marking material using the "undersill" strips of vinyl siding made by Georgia Pacific. Priced per foot of fence per each wire. Materials only.	Foot	\$0.04	500	\$20.00
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	\$186.19	1	\$186.19

Practice: 382 - Fence

Scenario: #2 - Multi Strand Barbed or smooth Wire Difficult terrain

Scenario Description:

Barbed, Smooth ,or Woven Wire Difficult Installation - Installation of fence in difficult situations will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Constructed using fencing materials rather than a pre-manufactured gate.

Before Situation:

On grazing lands health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods. Water quality is impacted by increased erosion and runoff, cattle access to water bodies is uncontrolled. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds. Fence installation conditions are for difficult sites such as poor access, steep slopes, rocky sites, dense brush, wet conditions etc.

After Situation:

Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Fence includes posts, wire, fasteners, gates, brace posts, etc... Fence will be installed with wildlife friendly considerations.

Scenario Feature Measure: Length of Fence

Scenario Unit: Feet

Scenario Typical Size: 1,320

Scenario Cost: \$3,547.59

Scenario Cost/Unit: \$2.69

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	\$39.91	5	\$199.55
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$25.17	10	\$251.70
Chainsaw	937	Equipment and power unit costs. Labor not included.	Hour	\$6.76	1	\$6.76
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$8.98	10	\$89.80
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	\$18.92	60	\$1,135.20
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.19	10	\$191.90
Materials						
Post, Steel T, 1.33 lbs, 6'	15	Steel Post, Studded 6' - 1.33 lb. Includes materials and shipping only.	Each	\$6.46	90	\$581.40
Vinyl Undersill Strips	241	Marking material using the "undersill" strips of vinyl siding made by Georgia Pacific. Priced per foot of fence per each wire. Materials only.	Foot	\$0.04	500	\$20.00
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$160.77	1	\$160.77
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.60	8	\$116.80
Post, Wood, CCA treated, 3-4" x 7'	9	Wood Post, Line 3-4" X 7', CCA Treated. Includes materials and shipping only.	Each	\$6.05	20	\$121.00
Wire, Barbed, Galvanized, 12.5 Gauge, 1,320' roll	1	Galvanized 12.5 gauge, 1,320' roll. Includes materials and shipping only.	Each	\$68.83	4	\$275.32
Fence, Wire Assembly, Barbed Wire	30	Brace pins, battens, clips, staples. Includes materials and shipping only.	Foot	\$0.16	1320	\$211.20

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	\$186.19	1	\$186.19
-------------------------------	------	--	------	----------	---	----------

Practice: 382 - Fence

Scenario: #3 - Woven Wire

Scenario Description:

Woven - Installation of fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Woven wire is typically used in applications with sheep, goats, hogs, wildlife exclusion, shelterbelt/tree protection, etc. Constructed using fencing materials rather than a pre-manufactured gate.

Before Situation:

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

After Situation:

Installation of fence will allow for implementation of a rotational grazing plan that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Woven wire fence includes posts, wire, fasteners, gates, etc... Woven wire is typically used in applications with sheep, goats, hogs, wildlife exclusion, shelterbelt/tree protection, etc.

Scenario Feature Measure: Length of Fence

Scenario Unit: Feet

Scenario Typical Size: 1,320

Scenario Cost: \$3,671.59

Scenario Cost/Unit: \$2.78

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	\$39.91	5	\$199.55
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$25.17	5	\$125.85
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$8.98	5	\$44.90
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	\$18.92	45	\$851.40
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.19	5	\$95.95
Materials						
Fence, Wire Assembly, Woven Wire	35	Brace pins, twist sticks, staples. Includes materials and shipping only.	Foot	\$0.12	1320	\$158.40
Post, Steel T, 1.33 lbs, 6'	15	Steel Post, Studded 6' - 1.33 lb. Includes materials and shipping only.	Each	\$6.46	90	\$581.40
Post, Wood, CCA treated, 3-4" x 7'	9	Wood Post, Line 3-4" X 7', CCA Treated. Includes materials and shipping only.	Each	\$6.05	20	\$121.00
Fence, Wire Assembly, Barbed Wire	30	Brace pins, battens, clips, staples. Includes materials and shipping only.	Foot	\$0.16	1320	\$211.20
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.60	8	\$116.80
Gate, Pipe, 12'	1057	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$160.77	1	\$160.77
Wire, Woven, Galvanized, 12.5 Gauge, 32"	3	Galvanized 12.5 gauge, 32" - 330' roll. Includes materials and shipping only.	Each	\$170.13	4	\$680.52
Wire, Barbed, Galvanized, 12.5 Gauge, 1,320' roll	1	Galvanized 12.5 gauge, 1,320' roll. Includes materials and shipping only.	Each	\$68.83	2	\$137.66

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	\$186.19	1	\$186.19
-------------------------------	------	--	------	----------	---	----------

Practice: 382 - Fence

Scenario: #4 - Electric

Scenario Description:

Electric - Installation of fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.

Before Situation:

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

After Situation:

Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Fence includes posts, wire, fasteners, gates, fence charger, etc... Two to three strand wire is commonly installed. Fence will be installed with wildlife friendly considerations.

Scenario Feature Measure: Length of Fence

Scenario Unit: Feet

Scenario Typical Size: 1,320

Scenario Cost: \$2,207.13

Scenario Cost/Unit: \$1.67

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	\$39.91	2	\$79.82
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$8.98	3	\$26.94
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$25.17	3	\$75.51
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.19	3	\$57.57
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	\$18.92	20	\$378.40
Materials						
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	1320	\$92.40
Electric, Energizer, 6 joule	29	Electric, Energizer, 6 joule for electric fence. Includes materials and shipping only.	Each	\$313.45	1	\$313.45
Electric, Lightening Diverter	22	Electric, Lightening diverter for electric fence. Includes materials and shipping only.	Each	\$9.93	1	\$9.93
Electric, Insulated cable	23	Electric, Insulated cable for electric fence. Typically in spools of 100 to 200 feet. Includes materials and shipping only.	Each	\$28.98	1	\$28.98
Electric, Ground Rod Clamps	21	Electric, Ground Rod Clamps for electric fence. Includes materials and shipping only.	Each	\$1.75	6	\$10.50
Post, Fiberglass, 7/8" X 6'	18	Fiberglass line post, 7/8" diameter X 6' length. Includes materials and shipping only.	Each	\$9.59	60	\$575.40
Electric, Ground Rods	20	Electric, Ground Rod for electric fence. Includes materials and shipping only.	Each	\$10.16	6	\$60.96
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.60	8	\$116.80
Gate, Pipe, 10'	1056	6 rail tube gate, 16 gauge. Includes materials and shipping only.	Each	\$142.41	1	\$142.41

Materials

Electric, Tester	26	Electric, Tester for electric fence. Includes materials and shipping only.	Each	\$39.77	1	\$39.77
Post, Wood, CCA treated, 3-4" x 7'	9	Wood Post, Line 3-4" X 7', CCA Treated. Includes materials and shipping only.	Each	\$6.05	2	\$12.10

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	\$186.19	1	\$186.19
-------------------------------	------	--	------	----------	---	----------

Practice: 382 - Fence

Scenario: #5 - Confinement

Scenario Description:

Installation of fence reduces resource concerns associated with livestock feeding operations and/or wildlife access to prevent conflicts between humans and livestock or wildlife species.

Before Situation:

Wildlife negatively impacting sensitive areas such as riparian areas, windbreaks and shelterbelts or feed storage. Disease transmission from wildlife poses a significant health risk to domestic animals.

After Situation:

Installation of fence reduces resource concerns associated with livestock and/or wildlife access and prevents conflicts between humans and threatened, endangered or sensitive species. Fence includes posts, wire, fasteners, gates, etc...

Scenario Feature Measure: Length of Fence

Scenario Unit: Feet

Scenario Typical Size: 1,320

Scenario Cost: \$5,504.64

Scenario Cost/Unit: \$4.17

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	\$39.91	4	\$159.64
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$25.17	5	\$125.85
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$8.98	5	\$44.90
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.19	5	\$95.95
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	\$18.92	60	\$1,135.20
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	\$26.08	20	\$521.60
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.60	8	\$116.80
Gate, Game, 8' High X 16'	1086	16' Wide Game Gate (8' Tall). Includes materials and shipping only.	Each	\$406.09	1	\$406.09
Wire, Woven, Wildlife, 96"	6	High Tensile 12.5 gauge, 96" - 330' roll. Includes materials and shipping only.	Each	\$440.28	4	\$1,761.12
Post, Steel T, 1.33 lbs, 10'	17	Steel Post, Studded 10' - 1.33 lb. Includes materials and shipping only.	Each	\$10.57	90	\$951.30
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	\$186.19	1	\$186.19

Practice: 382 - Fence

Scenario: #6 - Safety

Scenario Description:

A barrier (fence) implemented on an NRCS constructed waste storage system according to engineering design to exclude human access. Permanently installed fence built to (1) keep humans away from waste ponds & lagoons, or (2) to protect sensitive areas (riparian areas, wetlands, springs, etc.) from heavy livestock pressure. Heavy grade fence materials and close post spacing required.

Before Situation:

Where a NRCS designed and constructed waste storage pond is planned whereby significant risk to human safety is determined to be evident. Livestock has access to sensitive areas that may cause detrimental effect to animal/human health and wildlife habitat. Resource concerns affected are plant health and vigor, wildlife habitat, compaction of soils, runoff of sediment or water quality due to turbidity..

After Situation:

Humans and livestock are excluded from the waste storage pond for safety purposes by installing a fence around a waste holding pond. The fence would typically be 100 wide x 175 long with one gate and installed by a fencing contractor. Woven wire fence with one strand of barb wire on top with a gate. Improved livestock control and access to water or other sensitive areas will promote safety for livestock/humans improve health, vigor of sensitive species, limiting soil erosion, and condition. Associated practices may include 614-Watering Facility, 516-Pipeline, 533-Pumping Plant, 342 - Critical Area Planting

Scenario Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 450

Scenario Cost: \$2,354.88

Scenario Cost/Unit: \$5.23

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	\$39.91	12	\$478.92
Tractor, agricultural, 60 HP	963	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$25.17	12	\$302.04
Auger, Post driver attachment	934	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$8.98	12	\$107.76
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.19	12	\$230.28
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	\$18.92	12	\$227.04
Materials						
Post, Wood, CCA treated, 3-4" x 7'	9	Wood Post, Line 3-4" X 7', CCA Treated. Includes materials and shipping only.	Each	\$6.05	8	\$48.40
Wire, Woven, Galvanized, 12.5 Gauge, 32"	3	Galvanized 12.5 gauge, 32" - 330' roll. Includes materials and shipping only.	Each	\$170.13	1	\$170.13
Post, Wood, CCA treated, 6" x 8'	12	Wood Post, End 6" X 8', CCA Treated. Includes materials and shipping only.	Each	\$14.60	4	\$58.40
Post, Steel T, 1.33 lbs, 6'	15	Steel Post, Studded 6' - 1.33 lb. Includes materials and shipping only.	Each	\$6.46	45	\$290.70
Wire, Barbed, Galvanized, 12.5 Gauge, 1,320' roll	1	Galvanized 12.5 gauge, 1,320' roll. Includes materials and shipping only.	Each	\$68.83	1	\$68.83
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	\$186.19	2	\$372.38

Practice: 382 - Fence

Scenario: #7 - Temporary

Scenario Description:

Electric - Installation of temporary 1-2 wire fence to allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Fence is only present when livestock are present, may be removed when grazing period is finished.

Before Situation:

On grazinglands health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods. Water quality is impacted by increased erosion and runoff, cattle access to water bodies is uncontrolled. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds. Existing fence on pasture boundaries will be utilized to tie in with the temporary electric fence.

After Situation:

Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. Fence includes posts, wire, fasteners, gates, fence charger, etc... Single strand wire is commonly installed. Fence will be installed with wildlife friendly considerations. Associated practices may include 614-Watering Facility, 516-Pipeline, 533-Pumping Plant.

Scenario Feature Measure: length of fence

Scenario Unit: Foot

Scenario Typical Size: 1,320

Scenario Cost: \$776.81

Scenario Cost/Unit: \$0.59

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<i>Materials</i>						
Electric, Energizer, Solar	27	Electric, Energizer, Solar for electric fence. Includes materials and shipping only.	Each	\$308.82	1	\$308.82
Post, Fiberglass, 3/4" X 6'	18	Fiberglass line post, 3/4" diameter X 6' length. Includes materials and shipping only.	Each	\$9.59	44	\$421.96
Wire, Polywire	8	Wire, Polywire for electric fence - 1,300 roll. Includes materials and shipping only.	Each	\$46.03	1	\$46.03