

Fence (382) – *Example*

Conservation Practice Jobsheet – Non-High Tensile (Standard) Barbed Wire, Woven Wire, Smooth Electric

Natural Resources Conservation Service

Pacific Islands Area



General Criteria

Fencing materials shall be of a quality and durability that meets the intended management objectives. The lifespan of this practice is 10 years. Materials will be of durability that meets or exceeds this lifespan. Wire and hardware will be new, class III galvanized (or bezinal treated) material.

All corners, gates, and ends of fence will be braced with brace posts and poles in an "H" configuration, and supported with diagonal brace wire(s). Other brace configurations may be approved for special or difficult situations. In-line brace assemblies will also follow this configuration.

Height, number, and spacing of wires will be installed to facilitate control and management of the animal(s) and/or people of concern.

Height, size, spacing, and type of posts will be used that best provides the needs for the style of fence required and is best suited for the topography of the landscape.

Manufacturer's guidelines shall be adhered to during installation of each type of fence to ensure proper component assembly.

All fence construction shall comply with federal, state and local fencing codes.

Fences for mixed livestock may be constructed of woven wire topped with one or two strands of barbed wire or one strand of electrified smooth wire.

Basic Specifications

For greater detail, refer to the PIA-NRCS 382-Fence Specification.

Barbed wire: Double strand 12-1/2 gauge or larger with 2 or 4 point barbs on approximate 4-inch centers. Based on the animal being controlled, refer to Table 1, of the 382-Fence specification for guidelines on height and number of strands.

Woven wire: 12-1/2 gauge or larger top and bottom wires, 14 gauge or larger intermediate line and stay wires. Maximum of 12 inches between stay wires. refer to Table 1, of the 382-Fence specification for guidelines on height.

Smooth Wire or other conductor (non-high tensile): Must have manufacturer guarantee of 10 year life on materials.

Staples - Staples used to fasten fence wire to wooden posts will be 9 gauge galvanized wire with a minimum length of 1-1/2 inches for softwood and 1 inch for hardwood. Staples will be driven cross-wise to the grain and will not be driven in tight against wire.

Wood line posts – Minimum 3 inches in diameter, set a minimum of 2 feet deep, with spacing to follow guidelines in Table 1 of the 382-Fence specification. Posts may be driven or set in post holes and hand tamped with earth or filled with concrete. Post length is dependant upon desired fence height, with the top of the post between 2-4 inches above the top wire.

Steel line posts – Standard "T" or "U" section, and minimum weight of 1.33 lbs per foot (exclusive of anchor plate). Spacing will follow the guidelines in Table 1 of the 382-Fence specification. Posts will be driven into the ground at least 1.5 feet deep, so that the anchor plate is buried.

Corner, gate, and brace posts – Minimum 5 inches in diameter, set at least 3 feet deep. Brace posts are placed a minimum of 6 feet from corner posts, end

posts, and gate posts; and are at least 6 feet apart in line brace assemblies.

Horizontal brace poles (compression members) - are at least 6 feet long and a minimum diameter of 3 inches. They are set between 6 and 12 inches below the top of the vertical posts, using brace pins to tie into posts. Notch into post as needed. Diagonal brace wires are tightened using a figure 8 wrap and an in-line strainer, or a twist stick. Wire is tightened until posts are rigid.

Diagonal brace poles - are at least 8 feet long and a minimum diameter of 3 inches. They are set on a flat surface and connected by a brace wire running horizontal just above the ground. One end of the brace wire is secured to the bottom of the diagonal post in a notch; the other end is wrapped around the bottom of the vertical post being braced. The diagonal brace pole will be set at an angle within 40-50° off the vertical post. The top of the diagonal pole will be secured by a brace pin(s) within 6-12 inches of the top of the brace post. Notch into the vertical post as needed.

Brace assemblies in-line – are placed not more than 1320 feet apart on level or gently sloping land, or 660 ft (or closer as necessary) on steep or difficult terrain; and at any significant change in the land surface or 20 degrees in alignment or slope.

Considerations

Fences across gullies or streams require special braces and design. Breakaway fences or swinging water gaps allow debris and water to flow past the fence line without destroying the adjacent fence.

Follow all manufacturer's safety precautions for handling and installing fencing materials.

Attach wire on the side of posts that will receive the greatest pressure from animals. Place wire on the outside of posts on curves.

Locate fences to facilitate maintenance. Where applicable, clear right of ways should be established and maintained to facilitate fence construction and maintenance.

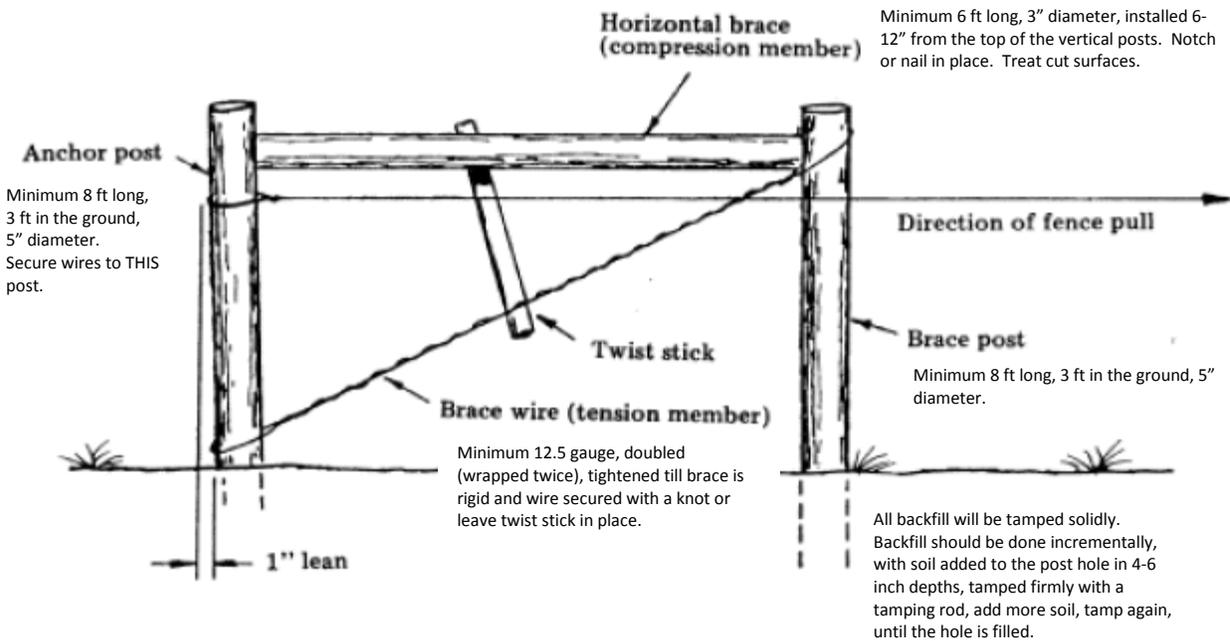
Consider making accommodations for the passage of wildlife, particularly where known travel ways for species of concern exist.

Electrified barbed wire is dangerous and should not be utilized.

See attached plan map for fence location, and standard drawings for more detail. Specifications are prepared in accordance with the NRCS Field Office Technical Guide. See practice standard 382-Fence.

Additional estimation and technical assistance may be acquired from NRCS and/or the fence manufacturer/supplier.

Example H-brace:



CODE 382--Barbed, Smooth, or Woven Wire Fence

Example

PRODUCER	TMK#	FARM/TRACT#	Field 1
EQIP	6, 9, 10	1450+2050+1800 = 5,300	FIELD NUMBER(S)
PROGRAM	CIN	TOTAL LENGTH (FT)	
You	V - Length		
PLANNER	JOB CLASS	DATE INSTALLED	

1. FENCE DESIGN

Livestock Type
Fence Height (Inches)
Strands (No.)
Wire Spacing (Inches)
List spacing starting with bottom wire

2. WIRE

Type
Size (Gauge)
Galvanization kind
Amount (total length in feet)

3. LINE POSTS

Material
Size (Inches) and Shape
Length (Feet)
Buried Depth (Inches)
Coating
Distance between Posts (Feet)
*Posts must be set at significant high and low points along fence to maintain proper wire height – use wood posts where necessary.

4. BRACES

Locations (on map)
Type and Material
Brace Wire Type and Size
Vertical Post Size (Inches)
 Length (Feet)
 Buried Depth (Feet)
 Coating
Compression Member Size (Inches)
 Length (Feet)
Diagonal Brace Size (Inches)
 Length (Feet)

5. STAYS

Type and Material
Size (inches) or Gauge
Length (Inches)

6. OTHER

	PLANNED	INSTALLED
	Cattle	
	~40"	
	4	
	12" – 9" – 9" – 9"	
	Barbed	
	12.5"	
	Type III galvanization	
	5,300' x 4 strands = 21,200 ft	
	Wood – treated pine or kiawe	Steel (1.33 lb/ft)
	3 inches	T-post
	6 ft	5.5 ft
	24 inches	18 inches
	Treat cut surfaces	Galvanized
	16.5 ft w/ no stays 20 ft w/ one stay 30 ft w/ two stays	
	Ends of fence, at gates, at bends in the fence >= 20 degrees and every 1320 ft (see map)	
	H-brace, wood-treated pine or kiawe	
	Galvanized, 12.5 gauge minimum	
	5 inches	
	7 feet	
	3 feet	
	Treat cut surfaces with rot preventative	
	3 inches	
	6 feet	
	n/a	
	n/a	
	Class III galvanized twist stays	
	11-gauge or heavier; commonly-sold stay materials	
	~27 - 30 inches	

7. SPECIAL PROVISIONS:

- A. Where possible, it is recommended that posts (including wood) are driven into the ground. If that is not reasonable and digging or drilling is required, all backfill will be tamped solidly. Backfill should be done incrementally, with soil added to the post hole in 4-6 inch depths, tamped firmly with a tamping rod, add more soil, tamp again, etc until the hole is filled. If drilled into rock, posts will be backfilled with concrete.
- B. **All planned gates will be installed and fully-functional prior to final certification.**
- C. In-field checks by NRCS are encouraged (but not required) to make sure that materials and installation meet the specifications. Contact NRCS at any time to schedule a field check. Suggested field check times include the following:
 - 1. After the materials are on-site and fence building is ready to begin.
 - 2. After approximately 200-feet of fence has been constructed, for a preliminary inspection.
 - 3. After the fence is completed according to these specifications.
 - 4. Any other times before-during-after construction where you need assistance and NRCS review of the construction.
- D. Additional construction specifications and general fencing information can be found in the NRCS-PIA 382-Fencing practice specification. Contact your local NRCS office if you need a copy.

COMPLETION CERTIFICATION REQUIREMENTS: You will be required to provide NRCS with documentation from the manufacturer (or fence supplier) showing the quality of materials used, upon completion (the project will not be certified without this documentation):

1. Gage and galvanization type (Class III or bezinal-coated) of predominant wire used.
2. Weight and length of posts. Weight of T-posts must equal or exceed 1.33 pounds/foot, exclusive of anchor plate.
3. Length and treatment of all wood posts used.
4. Diameter of wood and steel posts.

OPERATION AND MAINTENANCE: Regular inspection of fences should be part of an on-going management program. Maintenance and repairs will be performed as needed to facilitate the intended operation of the installed fence. Fence repairs should be made with materials that equal or exceed the quality of the original materials.

APPROVALS:

I have reviewed the specifications and special provisions in this jobsheet, plus any attached maps or drawings, and agree to construct this project in accordance with them. I agree to provide written documentation upon completion as described in the “Completion Certification Requirements” box above.

Producer – (enter/sign name as it appears on the NRCS-CPA-1155)

Date

NRCS Conservationist

DESIGN JAA

Date

CERTIFICATION STATEMENT:

I hereby certify that this practice has been installed in accordance with NRCS standards and specifications.

NRCS Conservationist

CERTIFICATION JAA

Date