United States Department of Agriculture
Natural Resources Conservation Service

Fence

Barbed Wire

Virginia Conservation Practice Job Sheet *Code 382(a)*

Definition
A constructed barrier to animals or people.

Purpose
This job sheet is provided as a component of a resource conservation plan. This practice facilitates the accomplishment of conservation objectives by providing a means to control movement of animals and people, including vehicles.

General Criteria and Specifications
Fencing materials, type and design of fence installed shall be of a high quality and durability. The type and design of fence installed will meet the management objectives and site challenges. Based on need, fences may be permanent, portable, or temporary.

Position fences to facilitate management requirements. Plan ingress/egress features such as gates and cattle guards.

Plan and install fence to provide the desired control, life expectancy, and management of animals and people of concern by using the appropriate fence height, size, wire spacing and type of materials.

Use the VA Materials and Construction Specifications and this Job Sheet to plan, design and construct the appropriate type of fence to meet project needs.

Design and install fences to meet the life expectancy of the practice and to comply with all federal, state and local laws and regulations.

Landscape timbers shall not be used for any part of a fence system.

<u>Fence Type</u>

Barbed wire fence is commonly used as a multi strand permanent fencing material for perimeter fences, land use boundaries, exclusion, and livestock containment and isolation areas as well as interior cross fencing to facilitate grazing management. Barbed wire fence is not recommended for horses, sheep, goats or hogs. Barbed wire fence will not be electrified because of safety hazard.

Specific information regarding allowable materials and construction for line posts, brace posts, brace assemblies, brace rails, fence wire, staples, fasteners, splicing, gates and other considerations are explained in detail in the text and Tables 1-9 of the Fence Materials and Construction Specifications.

Specifications are prepared in accordance with the NRCS Field Office Technical Guide. See Conservation Practice Standard *Fence* (382) and the Fence Materials and Construction Specification. Additional provisions are entered on the job sketch sheet.

Fence Barbed Wire Job Sheet Code 382(a)

Client/Operating Unit:	Farm #:
Field(s):	Tract #:
Planned By:	Location:
Date:	Length of Fence:
Landowner Objectives:	

Purpose (check all that apply)	
□ Control the movement of animals	□ Control the movement of humans
□ Control the movement of equipment or vehicles	□ Other (specify)
List type of animal(s) controlled:	

Type of Barbed Wire Fence (Check all that apply)	
□ 3-strand barbed wire □ 4-strand barbed wire □ 5-strand barbed wire □ 6-strand barbed wire □ 7-strand barbed wire □ Other _____	Wire Specs: □ Standard Double Strand Barbed or □ High Tensile Double Strand Barbed ● Size (gauge) _____ ● Coating _____ ● Strength (lbf or psi) _____

Line Posts*	
● Material Type _____ ●Top diameter (inches) _____ ● Shape _____ ● Length _____ ● Coating (if applicable) _____ ● Max spacing _____ ● Depth in ground _____	Other notes:

Brace Posts*	**Brace (Guy) Wire**
● Material _____ ● Size/diameter and length _____ (Corner, ends, pull, and gate posts) ● Size/diameter and length _____ (all other brace posts) ● Depth _____	□ 12.5 ga., galvanized steel, HT double wrapped □ 9 ga., galvanized steel, soft wire single wrap □ A single 3/16” galvanized cable with cable lock

***Landscaping timbers should not be used.**

Horizontal Brace Rail	Diagonal Brace Rail
● Material _____ ● Size (diameter and length) _____ ● Height from ground _____ ● Brace post notched □ Yes or □ No	● Material _____ ●Size (diameter and length) _____ ● Height of anchor post above ground _____

Operation and Maintenance

Inspections and maintenance are required to achieve the intended function, benefits, and life of the practice. The landowner/operator is responsible to establish and implement an inspection and maintenance program. Regular inspection of fences should be part of an ongoing maintenance program. Items to inspect and maintain during the 20-year design life of the practice include, but are not limited to, the following:

1. Inspect fences after storm events to ensure the continued proper function of the fence. Promptly repair or replace damaged or broken fencing.
2. Retain and properly discard all broken fencing material and hardware to prevent ingestion by animals or injury to equipment, people, or animals.
3. Remove debris collected in the fencing.
4. Clear brush and vegetation from fence lines.
5. Remove fallen limbs from fence wires. Overhanging trees and limbs should be trimmed or removed as needed.
6. Maintain proper tension on the fence wires.
7. All necessary precautions should be taken to ensure the safety of construction and maintenance crews.

Other:

Planner Certification

The Fence practice planned in this job sheet fulfils minimum requirements of VA NRCS Practice 382(a)

_____ _____ _____
Signature Title Date

Certification of Practice Completion

The Fence practice planned in this job sheet has been completed according to NRCS specifications (indicate in Practice Specifications any changes to planned activities).

_____ _____ _____
Signature Title Date

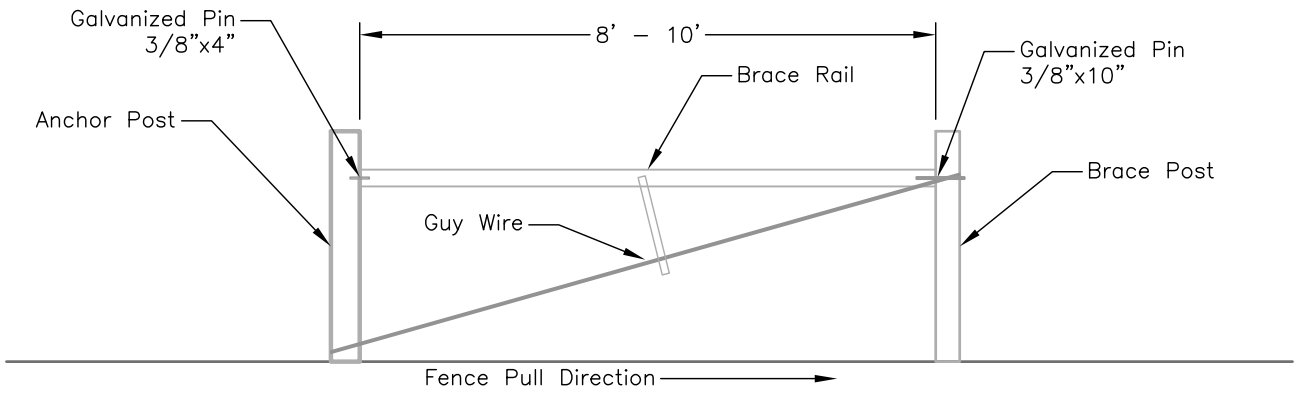
If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"= _____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")

Additional Specifications and Notes:

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all of its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex (including gender identity and expression), marital status, familial status, parental status, religion, sexual orientation, political beliefs, genetic information, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD)."

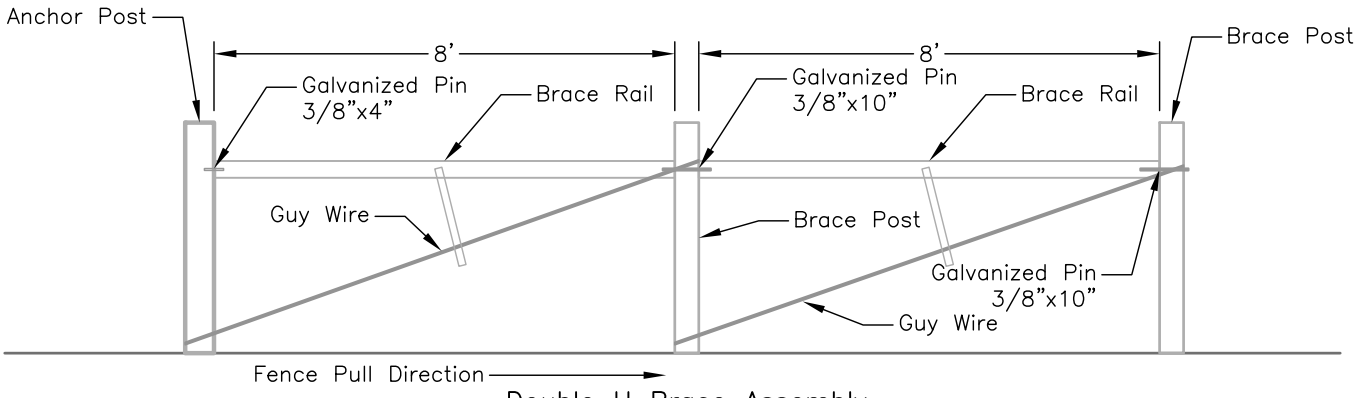
Barbed Wire Fence Construction and Installation Drawings



H Brace Assembly

Construction Notes

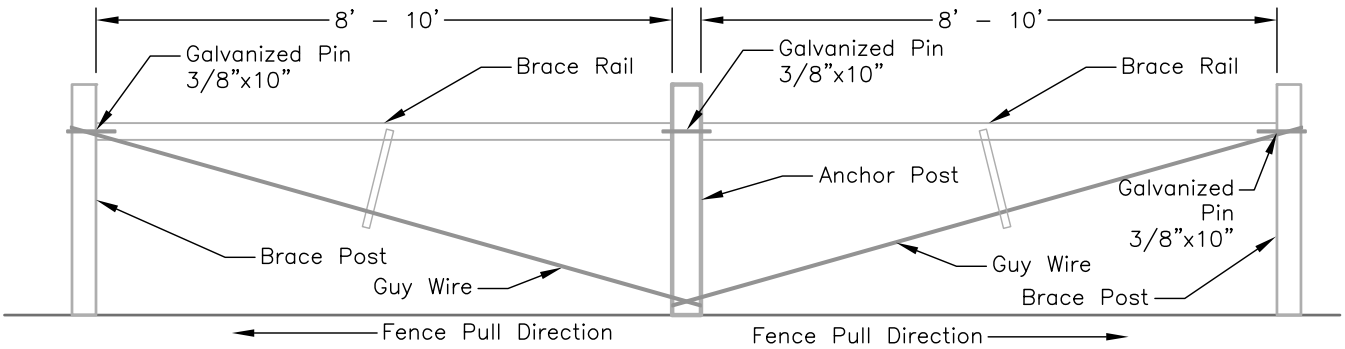
1. Brace width will be a minimum of 2 times the height of the top fence wire above the ground. (2½ times is preferred)
2. See Table 5 for corner, gate, and end post size and depth requirements.
3. Tension guy wires with a fence wire tightener or a treated twist stick approximately in the middle of the guy wire.
4. For guy wires, use 2 complete loops of 12½ ga. HT wire or a single strand of 9 ga. soft wire.
5. Brace rail should be between the top two fence wires, approximately 4" from the top of the post.



Double H Brace Assembly

Construction Notes

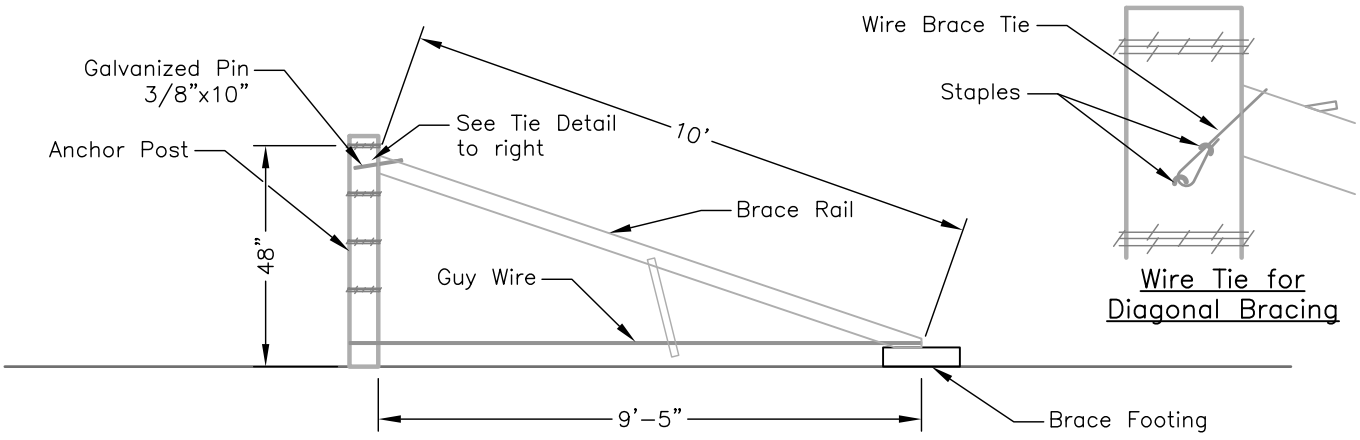
1. Brace width will be a minimum of 2 times the height of the top fence wire above the ground. (2½ times is preferred)
2. See Table 5 for corner, gate, and end post size and depth requirements.
3. Tension guy wires with a fence wire tightener or a treated twist stick approximately in the middle of the guy wire.
4. For guy wires, use 2 complete loops of 12½ ga. HT wire or a single strand of 9 ga. soft wire.
5. Brace rail should be between the top two fence wires, approximately 4" from the top of the post.



In–Line Pull Post Assembly

Construction Notes

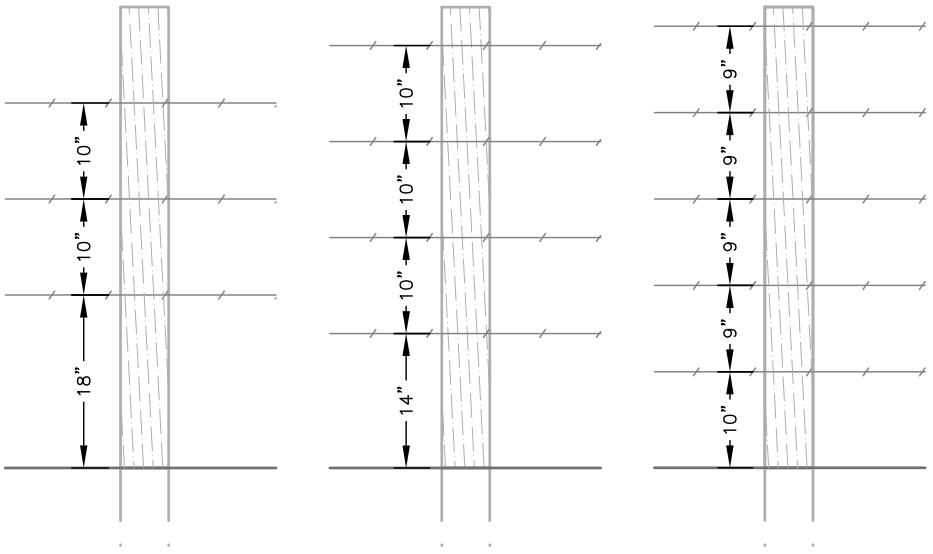
1. Brace width will be 2½ times the height of the top fence wire above the ground.
2. See Table 5 for corner, gate, and end post size and depth requirements.
3. Tension guy wires with a fence wire tightener or a treated twist stick approximately in the middle of the guy wire.
4. For guy wires, use 2 complete loops of 12½ ga. HT wire or a single strand of 9 ga. soft wire.
5. The fence wire shall be cut and tied off at the anchor post and start a new fence wire for the next fence section.
6. Brace rail should be between the top two fence wires, approximately 4" from the top of the post.



Typical Diagonal Floating Brace Assembly

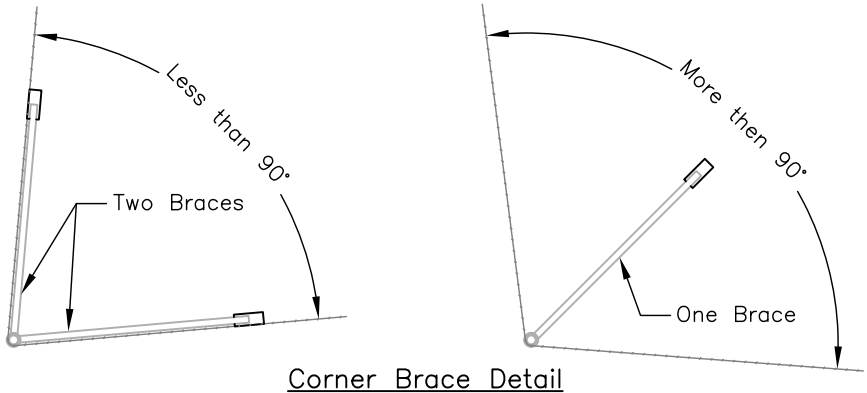
Construction Notes

1. Diagonal brace member length will be 2½ times the height of the top fence wire above the ground.
2. See Table 5 for corner, gate, and end post size and depth requirements.
3. Tension guy wires with a fence wire tightener or a treated twist stick approximately in the middle of the guy wire.
4. For guy wires, use 2 complete loops of 12½ ga. HT wire or a single strand of 9 ga. soft wire.
5. The brace footing shall have 100 square inches of ground contact, at a minimum.
6. The footing shall be 2" to 4" thick and can be concrete block, paving stone or a flat rock.
7. A diagonal floating brace can be substituted at corner, gate, end post H brace assemblies and in–line pull assemblies.

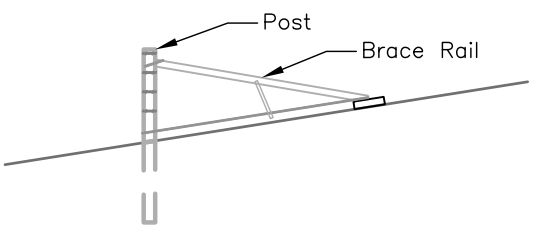


Note:
Wire height, number of strands and strand spacing will vary depending on the degree of containment needed for the livestock.

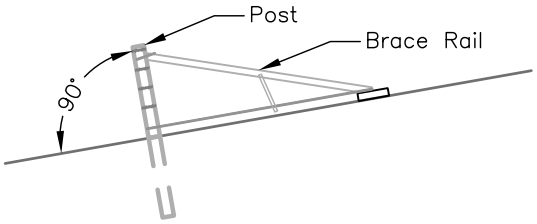
Typical Barbed Wire Spacing Details



Corner Brace Detail
Options

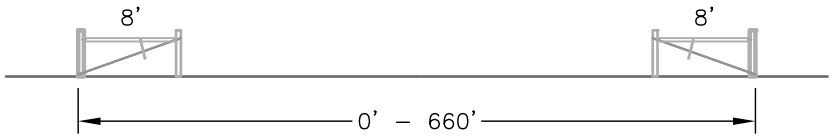


Posts on Slopes
Up to 21% Slope

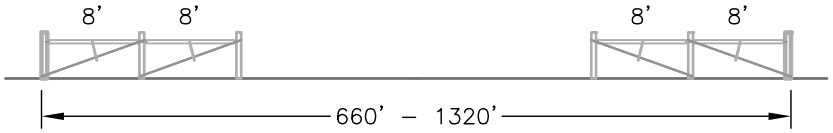


Posts on Slopes
More Than 21% Slope

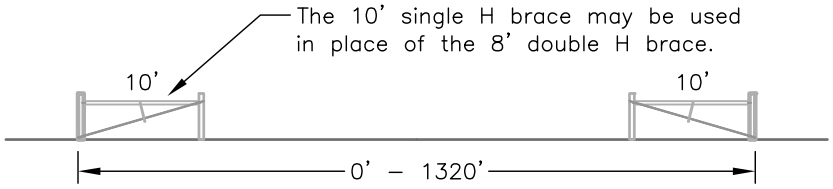
Single and Double H Brace Assembly Position and Construction for Barbed Wire Fence



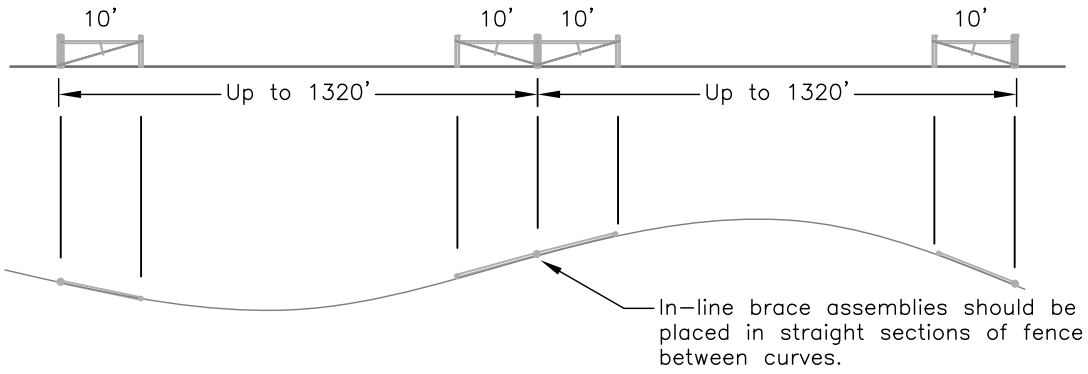
Single H Brace Assembly



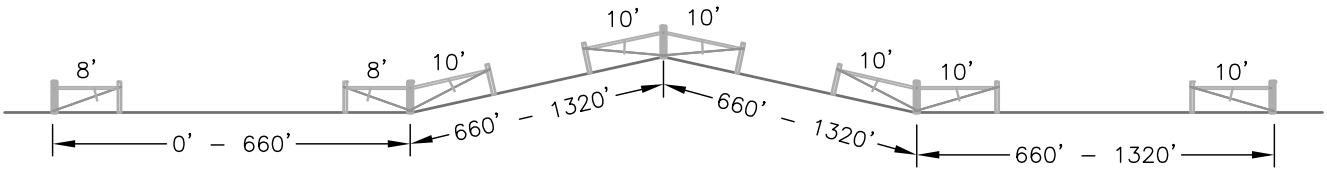
Double H Brace Assembly



Single H Brace Assembly

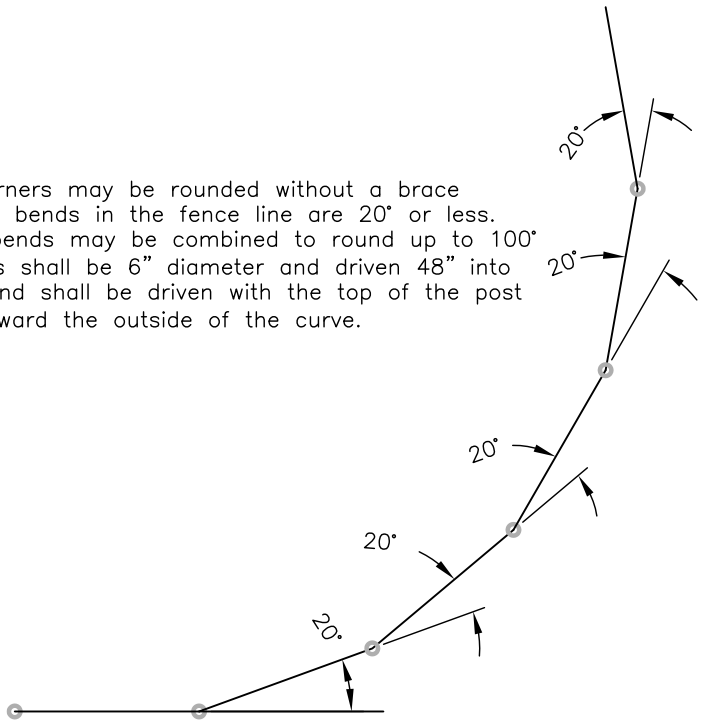


Curved Fence on Flat Land

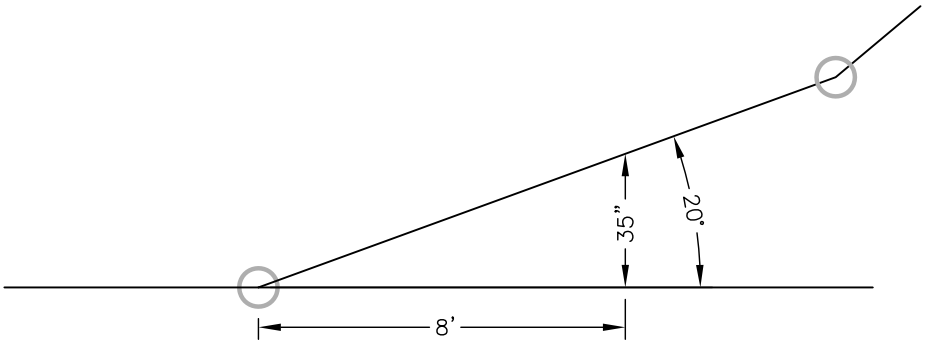


Straight Fence on Rolling Land

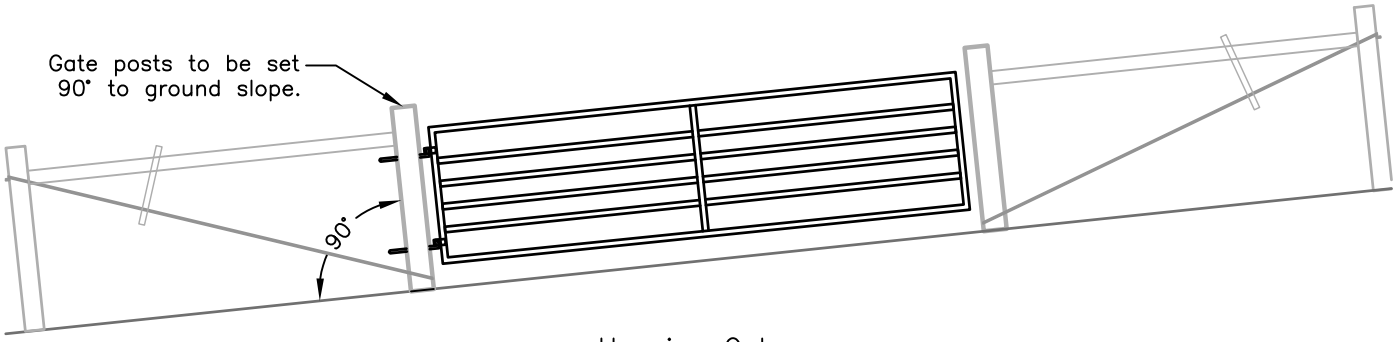
Curves or corners may be rounded without a brace system if the bends in the fence line are 20° or less. Multiple 20° bends may be combined to round up to 100° bends. Posts shall be 6" diameter and driven 48" into the ground and shall be driven with the top of the post leaning 4" toward the outside of the curve.



Rounding Sharp Corners or Curves

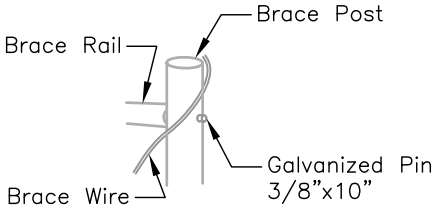


Determining Angle of Direction Change

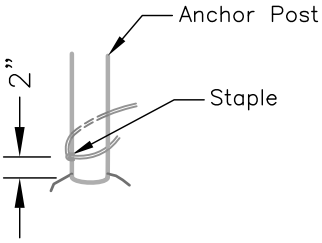


Hanging Gates

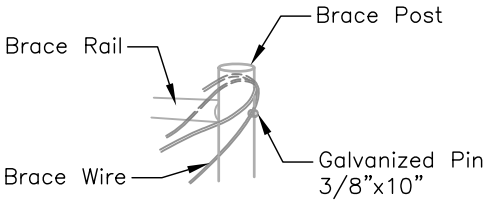
Brace Assembly Construction Detail



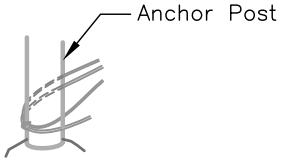
Wrap brace wire around brace post above protruding galvanized pin on opposite side from brace.



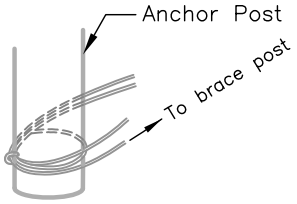
Drive a staple to half its length into anchor post about 2" from ground line opposite side of brace.



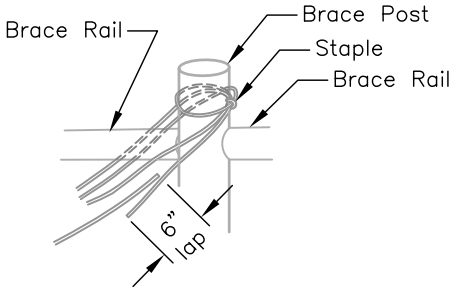
Unroll enough brace wire for two complete loops around anchor and brace post.



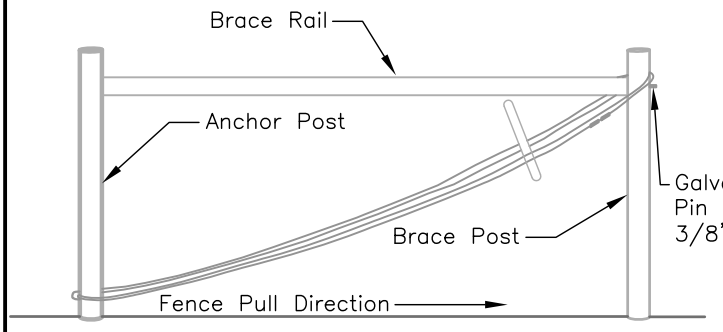
Thread end of brace wire through one staple and then through the other. Repeat to from three wire strands.

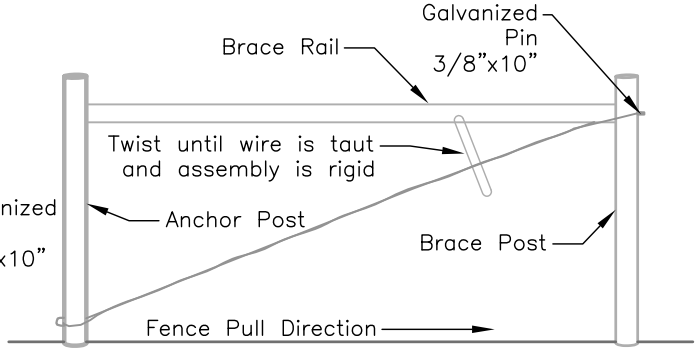


Wrap wire around anchor post and return toward brace post.

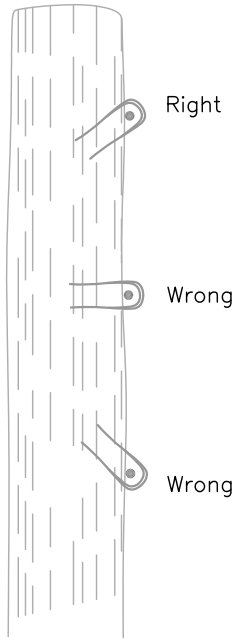


Cut brace wire from roll allowing enough wire to wrap around brace post and extend 6" to 12" past other wire end. Make splice.

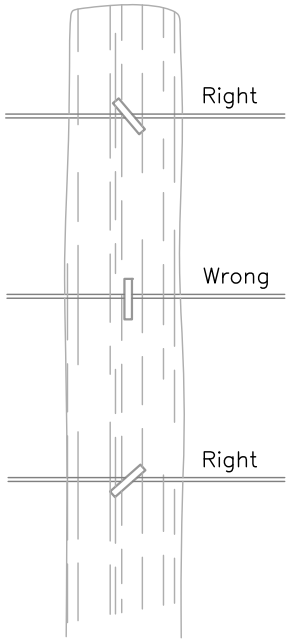




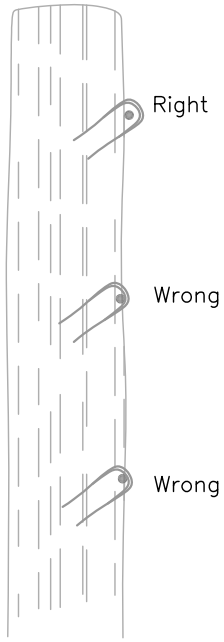
Wire Attachment Details



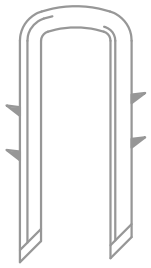
Drive staples at a downward angle.



Do not drive staples parallel to side of post.

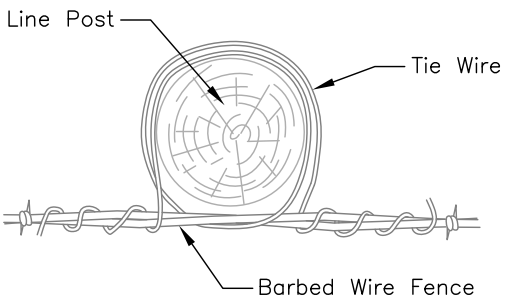


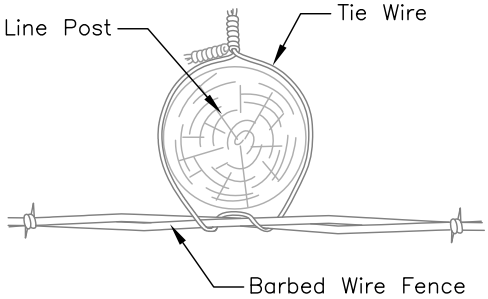
Leave wire loose in staple.



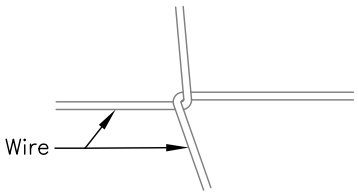
No. 9 gauge, Class 3 galvanized barbed staple, 1½" minimum

Staple Detail

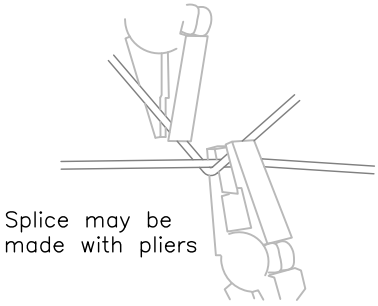




Post Attachment Details



Step 1



Step 2

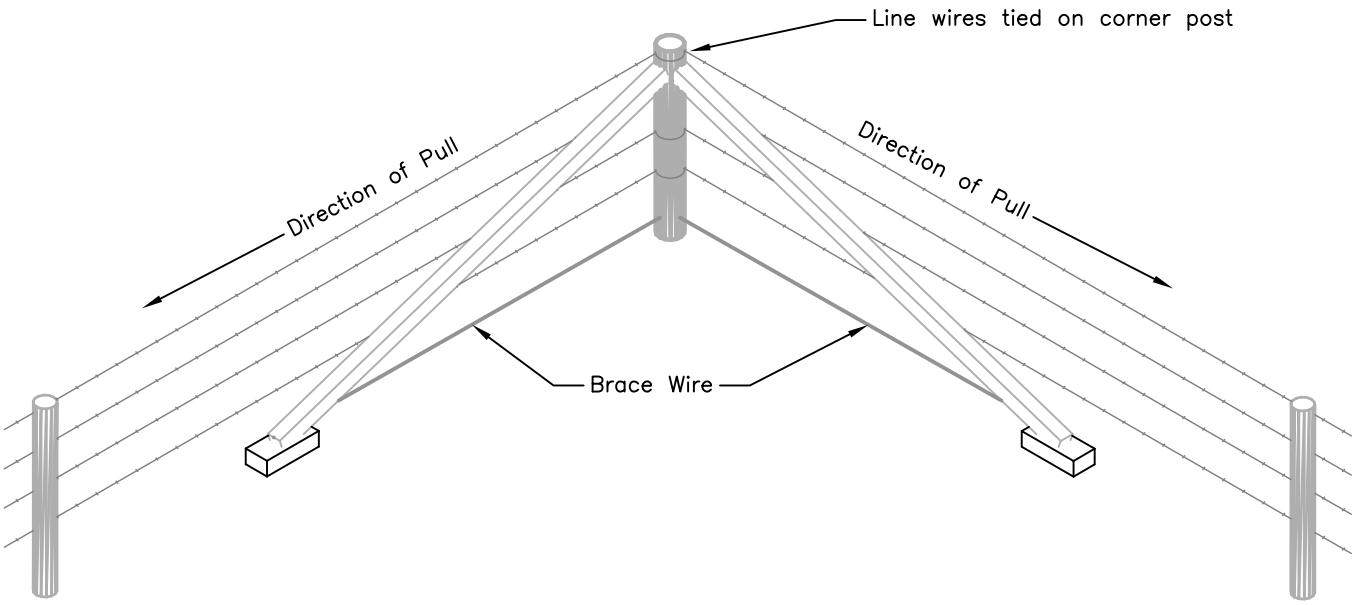
Note:
Barbed wire splices shall use the Western Union Splice, with 8 wraps each wire, or be crimped using appropriate sleeves.

Completed splice

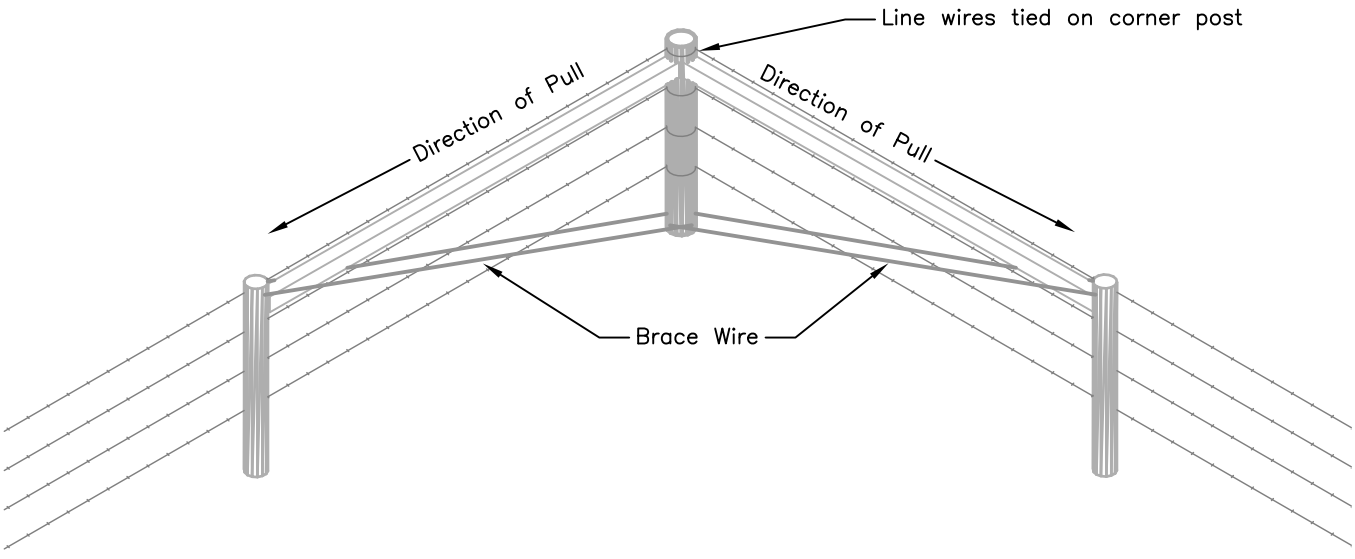
Step 3

Western Union Splice Detail

Typical Corner Brace Assembles



Diagonal Floating Brace Option



H Brace Option