

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

FENCE

(Ft.)

CODE 382

DEFINITION

A constructed barrier to animals or people.

PURPOSE

Practice is applied as part of a conservation management system to facilitate the application of conservation practices by providing a means to control animals and people.

CONDITIONS WHERE THIS PRACTICE APPLIES

This practice may be applied on any area where management of livestock and wildlife movement is needed or where access by people is to be regulated.

CRITERIA

Fencing materials shall be of high quality and durability. Construction will be performed to meet the intended management objectives. Based on need, fences may be permanent, portable, or temporary.

Fences shall be positioned to facilitate management requirements and topography of the site. Ingress/egress features such as gates and cattle guards shall be planned.

Fences shall consist of minimum acceptable fencing specifications to control the animal(s) or people of concern and meet the intended life of the practice.

Determine the appropriate type of fence to meet the needs by referring to the Fence Selection Criteria in Table 1.

Individual fence type specifications are found in the Job Sheets. The conservation planner will

complete the applicable VA Fence Job Sheet in accordance with fence criteria.

The fence design and installation shall follow all federal, state and local laws and regulations.

CONSIDERATIONS

The fence design and location should consider: topography, soil properties, safety and management of livestock, wildlife movement, location and adequacy of water facilities, development of potential grazing systems, human access, landscape aesthetics, erosion problems, moisture conditions, flooding potential, stream crossings, and durability of materials. When appropriate, natural barriers should be utilized instead of fencing.

Woven wire is not recommended along stream corridors that flood frequently. High tensile smooth wire is recommended. Use the minimum number of wires to control the specific animal type.

Where applicable, clear right-of-ways will be established which will facilitate fence construction and maintenance. Avoid clearing of vegetation during the nesting season for migratory birds (April 15th – August 15th).

Fences across gullies and streams may require special bracing, designs or approaches.

Fence design and location should consider ease of access for construction, repair and maintenance.

Any permanent fencing for grazing livestock should allow flexibility to facilitate implementation of the grazing plan and permit land management activities such as nutrient application, pest control, forage harvest and other appropriate practices.

Fence construction requiring the removal of existing unusable fence should provide for the proper disposal of scrap materials to prevent harm to animals, people and equipment.

PLANS AND SPECIFICATIONS

Plans and specifications are to be prepared for specific field sites. Plans and specifications for installing fences shall be in keeping with this standard and the appropriate VA Fence Job Sheet. Additional information needed to describe the requirements for applying the practice to achieve all of its intended purposes shall be documented in the case file, conservation notes, conservation plan or other acceptable means.

The appropriate VA fence Job Sheet, will be included in the design package.

OPERATION AND MAINTENANCE

Regular inspection of fences should be part of an on-going maintenance program. Inspection of fences after storm events is needed to facilitate the intended use of the fence.

Maintenance and repairs will be performed in a timely manner to facilitate the intended operation of the fence.

Inspection of fences after storm events is necessary to insure the continued proper function of the fence.

Remove and properly discard all broken fencing material and hardware. All necessary

precautions should be taken to ensure the safety of construction and maintenance crews.

REFERENCES

- Bell, H.M. 1973. Rangeland management for livestock production. University of Oklahoma Press.
- Heady, H.F. and R.D. Child. 1994. Rangeland ecology and management. Western Press.
- Holechek, J.L., R.D. Pieper, and C.H. Herbel. 2001. Range management: principles and practices. Prentice Hall.
- Stoddard, L.A., A.D. Smith, and T.W. Box. 1975. Range management. McGraw-Hill Book Company.
- United States Department of Interior, Bureau of Land Management and United States Department of Agriculture, Forest Service. 1988. Fences. Missoula Technology and Development Center.
- United States Department of Agriculture, Natural Resources Conservation Service. 2005. Electric fencing for serious grazers. Columbia, Mo.
- United States Department of Agriculture, Natural Resources Conservation Service. 2003. National range and pasture handbook, revision 1. Washington, DC.
- Vallentine, J.F. 1971. Range development and improvement. Brigham Young University Press.

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a 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). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."

VA NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD FENCE (382)

Table 1. Fence Selection Criteria

Fence design and construction must meet the minimum requirements for controlling specific animal types

Animal type to control	Fence type	Purpose of Fence				Spacing Inches above ground level <small>ww fences start 2-3 " above the ground</small>	Line posts & Stay (maximum spacing)				
		Perimeter (boundary) prohibited areas	Access lanes & stream crossings	Interior subdivision	Stream exclusion		post w/o stay	post with stay	Stay spacing		
		Minimum Criteria				Inches			Feet		
Cattle	Barbed 3-wire	NO	NO	Meets	Meets	18, 30, 42	16.5	na	na		
Cattle	Barbed 4-wire	NO	Meets	Exceeds	Exceeds	16 to 48 evenly spaced	16.5	na	na		
Cattle	Barbed 5-wire	Meets	Exceeds	Exceeds	Exceeds	14 to 48 evenly spaced	16.5	na	na		
Cattle	Non-Electric 4-wire high tensile smooth	NO	NO	Exceeds	Meets	12 to 42 evenly spaced	12	na	na		
Cattle	Non-Electric 6-wire high tensile smooth	No	Meets	Exceeds	Exceeds	12 to 44 evenly spaced	12	na	na		
Cattle	Non-Electric 8-wire high tensile smooth	Meets	Exceeds	Exceeds	Exceeds	12 to 44 evenly spaced	12	na	na		
Cattle	Electric 1-wire high tensile smooth	NO	NO	Meets	NO	32	50	na	na		
Cattle	Electric 2-wire high tensile smooth	NO	Meets	Exceeds	Meets	20, 32	50	100	25		
Cattle	Electric 3-wire high tensile smooth	NO	Exceeds	Exceeds	Exceeds	18, 30, 42	50	100	25		
Cattle	Electric 4-wire high tensile smooth	Meets	Exceeds	Exceeds	Exceeds	12 to 42 evenly spaced, minimum 2 hot	50	100	25		
Cattle	Electric 5-wire high tensile smooth	Exceeds	Exceeds	Exceeds	Exceeds	12 to 44 evenly spaced	50	100	25		
Cattle	Electric 1-wire Polywire or Polytape (1 hot wire)	NO	NO	Meets	NO	32	25	na	na		
Cattle	Electric 2-wire Polywire or Polytape (2 hot wires)	NO	Meets	Exceeds	Meets	20, 32	25	na	na		
Cattle	Woven wire plus one or more top wire	Exceeds	Exceeds	Exceeds	Exceeds	47 min, 6 max between top wires	16.5	na	na		
Cattle	Wood or Composition boards (6" wide)	Exceeds	Exceeds	Exceeds	Exceeds	6, 6, 8, 10 between boards	8	na	na		
Cattle	HT Woven wire plus one or more top wires	Exceeds	Exceeds	Exceeds	Exceeds	47 min, 6 max between top wires	25	na	na		
Goats & sheep	Barbed 5-wire	NO	NO	Meets	Meets	6 to 32 evenly spaced	16.5	30	10		
Goats & sheep	Barbed 6-wire	NO	Meets	Exceeds	Exceeds	6 to 36 evenly spaced	16.5	30	10		
Goats & sheep	Barbed 8-wire	Meets	Exceeds	Exceeds	Exceeds	6 to 48 evenly spaced	16.5	30	10		
Goats & sheep	Non-Electric 5-wire high tensile smooth	NO	NO	Meets	Meets	6 to 32 evenly spaced	16.5	30	15		
Goats & sheep	Non-Electric 6-wire high tensile smooth	NO	Meets	Exceeds	Exceeds	6 to 36 evenly spaced	16.5	30	15		
Goats & sheep	Non-Electric 7-wire high tensile smooth	Meets	Exceeds	Exceeds	Exceeds	6 to 42 evenly spaced	16.5	30	15		
Goats & sheep	Electric 3-wire high tensile smooth	NO	NO	Meets	Meets	8, 18, 30	50	100	25		
Goats & sheep	Electric 4-wire high tensile smooth	NO	Meets	Exceeds	Exceeds	6 to 36 evenly spaced	50	100	25		
Goats & sheep	Electric 5-wire high tensile smooth	Meets	Exceeds	Exceeds	Exceeds	6 to 38 evenly spaced, minimum 2 hot	50	100	25		
Goats & sheep	Woven wire plus one or more top wire	Exceeds	Exceeds	Exceeds	Exceeds	32 min, 6" max between top wires	16.5	na	na		
Goats & sheep	Wood or Composition boards (6" wide)	Exceeds	Exceeds	Exceeds	Exceeds	6, 6, 8, 10 between boards	8	na	na		
Goats & sheep	HT Woven wire plus one or more top wires	Exceeds	Exceeds	Exceeds	Exceeds	35 min, 6" max between top wires	25	na	na		
Horses	Electric 2-wire high tensile smooth	NO	Meets	Meets	Meets	28, 38	50	100	25		
Horses	Electric 3-wire high tensile smooth	NO	Exceeds	Exceeds	Exceeds	28, 38, 48	50	100	25		
Horses	Electric 4-wire high tensile smooth	Meets	Exceeds	Exceeds	Exceeds	18 to 54 evenly spaced, minimum 2 hot	50	100	25		
Horses	Electric 5-wire high tensile smooth	Exceeds	Exceeds	Exceeds	Exceeds	18 to 54 evenly spaced	50	100	25		
Horses	Electric 1-wire Polywire or Polytape	NO	NO	Meets	NO	34	25	na	na		
Horses	Electric 2-wire Polywire or Polytape	NO	Meets	Meets	Meets	28, 48	25	na	na		

Animal type to control	Fence type	Purpose of Fence				Spacing Inches above ground level ww fences start 2-3 " above the ground	Line posts & Stay (maximum spacing)		
		Perimeter (boundary) prohibited areas	Access lanes & stream crossings	Interior subdivision	Stream exclusion		post	post	Stay
							w/o stay	with stay	spacing
Minimum Criteria						Inches	Feet		
Horses	Woven wire w/1 wire HT on top	Exceeds	Exceeds	Exceeds	Exceeds	48 + HT at 54	16.5	na	na
Horses	Mesh "No climb" 2"x4" spacing	Exceeds	Exceeds	Exceeds	Exceeds	48 + HT at 54"	16.5	na	na
Horses	Wood or Composition boards (6" wide)	Exceeds	Exceeds	Exceeds	Exceeds	18 min. 12 max. between boards	8	na	na
Hogs	Electric 2-wire high tensile smooth	NO	NO	Meets	Meets	8, 16	20	30	15
Hogs	Electric 3-wire high tensile smooth	NO	Meets	Exceeds	Exceeds	8, 16, 24	20	30	15
Hogs	Woven wire 32" w/ 1 wire barb or HT	Exceeds	Exceeds	Exceeds	Exceeds	32 + barb or HT at 38	16.5	na	na
Hogs	Woven wire 32" w/ 1 HT electric inside	Meets	Meets	Meets	Meets	32 + 1 electric wire 8 off ground, 8 inside of fence.	16.5	na	na
Deer	Woven wire 96" tall	Meets	Meets	Meets	Meets	96"	12	na	na
Deer	Electric 7-wire High tensile smooth wire Slanted	Meets	Meets	Meets	Meets	see diagram of slant measurements	30	100	25
Deer	Electric 9-wire High tensile smooth wire	Meets	Meets	Meets	Meets	8, to 72 evenly spaced	30	100	25
Deer	Electric 12-wire High tensile smooth wire	Exceeds	Exceeds	Exceeds	Exceeds	6, to 72 evenly spaced	30	100	25
Deer	Electric 15-wire High tensile smooth wire	Exceeds	Exceeds	Exceeds	Exceeds	2, to 96 evenly spaced	30	100	25
Buffalo	Electric 4-wire high tensile smooth	NO	NO	Meets	Meets	16 to 42 evenly spaced	30	100	25
Buffalo	Electric 5-wire high tensile smooth	NO	Meets	Exceeds	Exceeds	16 to 48 evenly spaced	30	100	25
Buffalo	Electric 6-wire high tensile smooth	Meets	Exceeds	Exceeds	Exceeds	12 to 52 evenly spaced	30	100	25
Chickens/turkey	Woven wire 2"x4" 1 wire HT or barb above	Exceeds	Exceeds	Exceeds	Exceeds	72	16.5	na	na
Emu and ostrich	Woven wire 6"x6" 1 wire HT or barb above	Exceeds	Exceeds	Exceeds	Exceeds	72	16.5	na	na
Chickens/turkey	HT Woven wire 2"x4" 1 wire HT or barb above	Exceeds	Exceeds	Exceeds	Exceeds	72	25	na	na
Emu and ostrich	HT Woven wire 6"x6" 1 wire HT or barb above	Exceeds	Exceeds	Exceeds	Exceeds	72	25	na	na
People	Chain link	Meets	Preferred option**			60 with 1 barb above	8	na	na
People	Electric 5-wire	Meets				12 to 60 evenly spaced	50	100	25
People	Woven wire 47 inch plus 1 or 2 barbed wires or HT elec	Meets				47 min. HT or barb at 6 spacing to 48. HT may be electrified	16.5	na	na