

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

FENCE

(Ft.)

CODE 382

DEFINITION

A constructed barrier to animals or people.

segments with posts adjusted closer together as needed.

PURPOSE

To control movement of animals and/or people, including vehicles.

For additional criteria concerning materials and installation of various types of livestock fences, refer to the Delaware conservation practice Specifications for Fence (382) and the Delaware Standard Drawings (382).

CONDITIONS WHERE PRACTICE APPLIES

This practice may be applied on any area where management of animal or human movement is needed.

Vegetated areas that were disturbed during fence construction shall be replanted as needed. Based on land use and site conditions, use one of the following Delaware conservation practice standards to specify the appropriate grasses or other vegetation: Conservation Cover (327), Critical Area Planting (342), or Forage and Biomass Planting (512).

CRITERIA

General Criteria Applicable to All Purposes

Fencing materials, type, and design of fence shall provide the desired control of animals, vehicles, and/or people of concern for the intended life of the practice. Ingress/egress features, such as gates and cattle guards, shall be used as needed.

Fences shall comply with all applicable state laws and local codes for construction. Where applicable, establish clear rights-of-way to facilitate fence construction and maintenance.

Based on objectives, fences may be permanently installed, or temporary and movable.

Follow all manufacturers' safety precautions when installing and maintaining fences. Wire that is over-stretched may break and recoil. Wear appropriate eye and hand protection.

Fences shall be located, designed, and installed to meet appropriate local wildlife and land management needs and requirements.

Locate fences so that they do not contact electric lines and do not interfere with other utilities. In areas where public access is expected, place warning signs on electric fences every 150 to 200 feet.

Fencing materials shall be new, of high quality and durability, and installed to meet the intended purpose of the practice. Use of high quality serviceable materials that are not new requires prior approval by NRCS.

Note: Specific programs may dictate criteria in addition to, or more restrictive than, those specified in this standard.

Fence alignment shall be as straight as practicable between corners or turns. Construct fences along curved lines by using straight

CONSIDERATIONS

Consider site suitability, based on soil survey data and field investigations, as appropriate, to

determine any limitations to fence installation, such as depth to bedrock.

Consider the purpose for which the fence will be used. This will determine the type of fence that is suitable. Sheep, goats, and hogs generally require woven wire fences to contain them. Board fences and high tensile wire fences are typically used for horses. Cattle can be contained with high tensile or barbed wire fences. Chain link fences are often used to keep people and domestic animals away from hazardous areas.

Consider the risk involved if livestock, wildlife, vehicles, or people get through a fence. Fences along busy highways, around hazardous areas, or along property lines usually must be stronger than fences that are used for limited restraint, such as for dividing paddocks within a field.

Consider installing fences in locations that will facilitate maintenance by avoiding irregular terrain and/or water crossings.

When fences will be used for managing livestock, consider handling, watering, and feeding requirements before locating fences and gates.

Consider the potential for soil erosion, especially when planning and installing livestock fences on steep slopes.

When fence construction involves the removal of old fencing materials, consider proper disposal methods to prevent harm to animals, people, and equipment.

Consider the design and location of the fence, and whether it might adversely affect wildlife movement.

Consider whether restricting public access may be an issue in areas where the right of access was previously established by past use and law.

Consider the need for access by public safety personnel, and assess whether the fence will unnecessarily restrict activities such as fire control and emergency rescue.

Identify and evaluate any other constraints, such as economic feasibility, maintenance require-

ments, state and federal regulations, or program requirements. If the fence is enrolled in a financial assistance program, consider the type of fencing and the number of gates that will be eligible for reimbursement.

Consider using this practice to protect significant archaeological resources or cultural properties from damage.

This practice has the potential to affect National Register listed cultural resources or eligible (significant) cultural resources. These may include archeological, historic, or traditional cultural properties. Care should be taken to avoid adverse impacts to these resources. Follow NRCS state policy for considering cultural resources during planning.

PLANS AND SPECIFICATIONS

Plans and specifications for this practice shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail to ensure successful implementation of this practice, and may be recorded in narrative form, on Implementation Requirements (IR) worksheets, engineering designs and specifications, or other approved forms.

The appropriate fact sheet(s), completed 382 IR worksheet, and Delaware Standard Drawings (382) can serve as the plan and specifications for this practice.

The following items shall be addressed, as appropriate:

1. Purpose of the fence (and type of livestock, if applicable);
2. Type of fence, location, layout, dimensions, and materials to be used;
3. Include the following statement:

It is the responsibility of the landowner or operator to contact Miss Utility at 1-800-257-7777 (or dial 811) at least 2 business days in advance of construction to locate and mark underground utilities.

OPERATION AND MAINTENANCE

An Operation and Management (O&M) plan shall be prepared and is the responsibility of the client to implement. The appropriate fact sheet(s) and IR worksheet may serve as the management plan, as well as supporting documentation, and shall be reviewed with and provided to the client.

At a minimum, the following components shall be addressed in the O&M plan, as applicable:

1. Inspect fences at least annually for structural integrity. Regular inspection of fences should be part of an on-going management program. Fences located near trees should be inspected after severe weather. In areas that flood, inspect fences after each storm event. Perform maintenance in a timely manner and promptly repair worn or otherwise damaged sections;
2. Control the encroachment of weeds, brush, and trees along fences by mechanical or chemical methods to prevent them from damaging or otherwise impacting the life and function of the fence;
3. For electric fences:
 - a. Inspect insulators, energizers (chargers), and other components frequently (and especially after lightning storms) for proper function. Replace worn, damaged, or otherwise nonfunctional components.
 - b. Keep all metallic implements away from electric fence lines. Do not tether animals with chains near any electric fences.
 - c. Warn children that electric fencing is being used and let neighbors know where and how to shut off the current. Post warning signs every 150 – 200 feet in areas with public access.

SUPPORTING DATA AND DOCUMENTATION

The following is a list of the minimum data and documentation to be recorded in the case file:

1. Location of the practice on the conservation plan map;

2. Assistance notes. The notes shall include dates of site visits, name or initials of the person who made the visit, specifics as to alternatives discussed, decisions made, and by whom;
3. Completed IR worksheet, and copy of the appropriate fact sheet(s), standard drawings, or other specifications and management plans;
4. Document on assistance notes initial discussion about the landowner's responsibility to notify Miss Utility, and any information from the landowner about the existence and location of known utilities;
5. Document on assistance notes assurances from the landowner that Miss Utility has been notified, including staking by the utilities.

Construction Check Data/As-Built Plans

Document approval by the designer of any changes from the drawings or specifications before implementation of the change. Verify and document that fencing has been installed according to plans and specifications.

REFERENCES

1. American Wood Protection Association. *Treated Wood Is All the Same, Right?* AWWA Fact Sheet. http://www.awpa.com/references/documents_PDF/NotAllTreatedWoodTheSame-web.pdf
2. American Wood Protection Association. 2015. *Use Category System: User Specification for Treated Wood*. AWWA Standard U1. <http://www.awpa.com/standards/U1excerpt.pdf>
3. Gay, Susan W., and Richard D. Heidel. 2009. *Constructing High-tensile Wire Fences*. Publication 442-132, Virginia Cooperative Extension. <https://pubs.ext.vt.edu/442/442-132/442-132.pdf.pdf>
4. Gay, Susan W., S. Ray Smith, and Gordon E. Groover. 2009. *Planning Fencing Systems for Controlled Grazing*. Publication 442-130, Virginia Cooperative Extension. <http://pubs.ext.vt.edu/442/442-130/442-130.pdf.pdf>

5. Hygnstrom, Scott E., Gary E. Larson, Robert M. Timm (eds.). 1994. *Prevention and Control of Wildlife Damage*. University of Nebraska Cooperative Extension, Great Plains Agricultural Council, and USDA-APHIS.
http://ncforestry.info/unl-extension/wildlife_damage/
6. Kays, Jonathan. *Managing Deer Damage in Maryland*. Bulletin 354, Maryland Cooperative Extension.
https://extension.umd.edu/sites/default/files/docs/programs/woodland-steward/EB354_ManagingDeerDamage.pdf
7. USDA, Natural Resources Conservation Service. *Conservation Practice Standards*. Delaware Field Office Technical Guide, Section IV.
8. USDA, Natural Resources Conservation Service. 2005. *Electric Fencing for Serious Graziers*. Columbia, Mo.
9. USDA, Natural Resources Conservation Service. 2003. *National Range and Pasture Handbook*, revision 1, Washington, DC.
10. Worley, John W. 2015 (rev.). *Fences for the Farm*. Circular 774, University of Georgia Extension.
http://extension.uga.edu/publications/files/pdf/C%20774_5.PDF
11. Worley, John W., and Gary Heusner. 2015 (rev.). *Fences for Horses*. Bulletin 1192, University of Georgia Extension.
http://extension.uga.edu/publications/files/pdf/B%201192_5.PDF