

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION**

WINDBREAK/SHELTERBELT RENOVATION

(Feet)

CODE 650

GENERAL SPECIFICATIONS

Procedures, technical details and other information listed below provide additional guidance for carrying out selected components. This material supplements the requirements and considerations listed in the conservation practice standard.

SCOPE

This practice shall consist of site preparation, planting and maintaining suitable species to renovate a windbreak. The location and layout of the windbreak shall be as shown on the plans or drawings or staked in the field.

DEFINITION

Renovation is defined as replacing, releasing, and/or removing selected trees and shrubs or rows within an existing windbreak or shelterbelt or adding rows to the windbreak or shelterbelt.

CRITERIA FOR SPECIES SELECTION

Follow Specification for practice number 380 Windbreak/Shelterbelt Establishment for species selection guidance.

CRITERIA FOR PLANTING STOCK CARE

Follow Specification for practice number 380 Windbreak/Shelterbelt Establishment for planting stock care and handling guidance.

CRITERIA FOR SITE PREPARATION

Follow Specification for practice number 380 Windbreak/Shelterbelt Establishment for site preparation guidance

CRITERIA FOR PLANTING TECHNIQUES

Follow Specification for practice number 612 Tree and Shrub Establishment for acceptable planting techniques.

CRITERIA FOR PRUNING TECHNIQUES

Follow Specification for practice number 660 Tree and Shrub Pruning for acceptable pruning techniques and tools.

CRITERIA FOR PROTECTION TECHNIQUES

Follow Specification for practice number 612 Tree and Shrub Establishment for acceptable plant protection techniques.

GENERAL CRITERIA FOR RENOVATION

The following are acceptable reasons for conducting this practice. They may be used individually or in combination to accomplish windbreak or shelterbelt renovation:

- To reduce plant competition or alter the density of the planting, individual trees or shrubs will be identified for thinning.
- To remove diseased branches or alter the density of the planting, the trees will be pruned. See Tree and Shrub Pruning standard and specification.
- To release adjacent rows of trees or shrubs, entire or partial rows of trees or shrubs will be identified and removed.
- To improve density or vigor of identified rows of trees or shrubs in decline, trees or shrubs will be cut to the ground to allow sprouting (coppice).
- To improve the growth and vigor of trees and shrubs, competing herbaceous vegetation will be mechanically or chemically managed.
- To improve windbreak or shelterbelt density, additional rows of trees or shrubs will be added adjacent to or within an existing windbreak or shelterbelt.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resource Conservation Service.

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- Residual plants will be protected during the renovation.
- Comply with applicable laws and regulations.

CRITERIA FOR COPICE MANAGEMENT OF POPLAR AND OTHER BASAL SPROUTING SPECIES.

Trees and shrubs that will regenerate by copice will be managed to maintain vigor. Trees and shrubs that demonstrate declining vigor will be cut as low to the ground as possible. Stumps will not exceed 16 inches in height. Sprouts will be managed to maintain vigor. At the end of the first year select from 3 to 5 of the most vigorous, properly attached sprouts. Mark these sprouts for retention. Remove all other sprouts during the dormant season.

GENERAL CONSIDERATIONS

Renovation may be accomplished over a period of years.

Debris should be removed from the site and disposed of properly if the debris will cause insect, disease, fire, or other maintenance problems.

Consider shade tolerance when selecting species for replanting within or adjacent to an existing windbreak or shelterbelt.

Wildlife habitat needs should be considered when selecting tree or shrub species.

Damaging pests will be monitored and managed.

PLANNING CONSIDERATIONS

General field examination should be done prior to designing a renovation system for an existing windbreak.

Items to look for in determining if a windbreak needs renovation are:

- a. Does the existing windbreak meet the needs of the current and proposed land use?
- b. Are the wind velocities being reduced enough to meet current land user objectives?
- c. Is the windbreak structure endangered due to either tree or shrub species decline in health or vigor because of overcrowding, past maturity, and presence of insects or disease?
- d. Are there openings that allow damaging or unwanted winds to penetrate the windbreak?

- e. Has the windbreak grown so large or became trashy or does it allow so much shade that it needs to be renovated to meet land use objectives?

Field investigations should be under-taken to determine if normal maintenance may not be sufficient to maintain healthy plant vigor. Removal of competition from grass, insect and disease control and maintaining adequate supplemental water may eliminate the need for renovation.

The renovation planning process is an excellent time to evaluate wind erosion control needs for present and future land uses. Are more wind barriers needed for desired protection?

Plan for temporary wind control until the renovated wind barrier has grown to provide the necessary degree of protection. Wind erosion control barriers to consider are:

- a. Artificial barriers;
- b. Increasing residues, if needed;
- c. Herbaceous barriers, either annual crop or perennials;
- d. Strip cropping, include trap strip (less than 2' high).

Shearing of existing windbreaks to maintain or improve form or limit height growth is considered to be maintenance.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan or other acceptable documentation.

OPERATION AND MAINTENANCE

The following actions shall be carried out to ensure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation) and repair and upkeep of the practice (maintenance):

Contact the local NRCS conservationist immediately when unexpected problems and/or questions arise during practice installation.

Vegetative competition will be managed as long as it inhibits the renewed growth and vigor of the windbreak or shelterbelt.

Supplemental water will be provided as needed.

The trees and shrubs will be inspected and protected from adverse impacts including insects, diseases or competing vegetation. The trees or shrubs will also be protected from fire and damage from livestock or wildlife.

Additional thinning, pruning, or coppice management may be needed in the future to maintain function,

Periodic application of nutrients may be needed to maintain plant vigor.

The windbreak/shelterbelt will be monitored for potential damaging pests. Pests will be managed when populations reach potentially damaging levels.