

Windbreak/Shelterbelt Establishment

Virginia Conservation Practice Job Sheet

380



Definition

Windbreak or shelterbelts are single or multiple rows of trees or shrubs in linear configurations.

Criteria

Vegetation may be established by using bare-root seedlings, containerized stock, or balled-and-burlapped stock. Only viable, high quality planting stock shall be used.

The location, layout and density of the planting will accomplish the purpose and function intended within a 20-year period.

Consider plant growth rates, shade tolerance, soil moisture requirements and tolerances, and other plant characteristics when selecting species. Within a row, use only one species, or select a mix of species that have similar growth forms and growth rates.

Select plant species that are native to Virginia, or are introduced and are non-invasive (i.e., not likely to spread beyond the planted area and displace native species). Plantings consisting of two or more species, especially locally native plant species, shall be encouraged. For best results, use species and varieties with proven conservation traits. Plant species must be selected based on the planned purpose(s) and the soil, climate and site conditions.

Density is the solid portion of the barrier, i.e., the amount of leaves, branches and trunks in the windbreak. The density of a windbreak is determined by the choice of species (especially evergreen vs. deciduous), the number of rows used, and the spacing of the plants between and within rows. Plan windbreaks to meet density requirements when specified in the standard for specific purposes.

Orient the Windbreak as close to perpendicular to the troublesome wind as possible.

The length of the windbreak will be sufficient to protect the site including considerations for the “end effect” and the change in the wind direction.

Avoid plant trees or shrubs where they will interfere with structures, and above or below ground utilities.

Follow recommendations for planting rates, methods, and dates obtained from the Virginia Plant Establishment Guide and Virginia Conservation Practice Standard *Tree and Shrub Establishment (612)*.

Spacing between and within rows shall be based on the needed growing space for plant type and species, the accommodation of maintenance equipment, and the desired characteristics of the stem(s), branches and canopy as required for a specific purpose.

Use staggered spacing in multiple row plantings. Plant taller-growing trees or shrubs in center rows, and medium or lower growing species in outer rows.

Be sure plans and specifications for establishment of the windbreak are prepared in accordance with the criteria listed in the practice standard.

Producer _____ Farm # _____ Tract # _____

Field Office _____ Contract # _____

Planting Date _____

Producer's Purpose			
<input type="checkbox"/> Reduce soil erosion from wind. <input type="checkbox"/> Provide shelter for structures, animals and people. <input type="checkbox"/> Increase carbon storage in biomass and soils. <input type="checkbox"/> Provide noise and visual screens. <input type="checkbox"/> Improve air quality by reducing and intercepting air borne particulate matter, chemicals and odors.	<input type="checkbox"/> Protect plants from wind related damage. <input type="checkbox"/> Manage snow deposition. <input type="checkbox"/> Enhance wildlife habitat. <input type="checkbox"/> Delineate property and field boundaries. <input type="checkbox"/> Improve irrigation efficiency		
Practice Specifications			
Layout	Strip 1	Strip 2	Strip 3
Planting Location			
Row No.			
Row Length (lf)			
Spacing (lf) Between Plants Within Each Row			
Spacing (lf) Between Row(s)			
Tree or Shrub Species (List cultivar, if needed)	Total Quantities Needed	Seeding Date	
Row 1:			
Row 2:			
Row 3:			
Site Preparation			
<p>Site conditions, including soil quality and the type and density of existing vegetation, will determine how much site preparation you will need to do before planting. Around buildings and other structures, soil may be heavily compacted or contaminated with construction debris, gravel, and other fill material that can severely hinder plant rooting and survival.</p> <p>If grasses or weeds are tall, you should mow or brush hog the planting strips. It is recommended that the planting strips either be tilled up or treated before planting with a non-selective herbicide such as glyphosate (for example, Roundup, KleenUp), following all label directions.</p> <p>Perform site preparation and seeding or planting at a time and in a manner that best ensures survival and growth of the selected species. Specify what constitutes successful establishment, e.g. minimum percent ground/canopy cover, percent survival, stand density, etc. before application.</p>			

Planting Methods

Trees and shrubs that are planted correctly will grow faster, and are more likely to survive, than ones that are planted incorrectly.

Always check for utility lines (gas, water, cable, electricity) before planting. Avoid planting on top of buried utility lines, or below overhead lines.

Containerized and balled-and-burlapped plants are usually available throughout the year. The preferred planting times are in the fall or early spring. Do not plant during the summer months when high temperatures and lack of rainfall will make survival very difficult or in the winter if the ground is frozen. Refer to the *VA Plant Establishment Guide* for recommended planting dates for the different types of woody plant-materials, and or the Virginia Department of Forestry representative.

Operation and Maintenance

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life:

- Inspect trees and shrubs periodically and protect from adverse impacts including insects, diseases, fire, or damage from livestock and wildlife;
- Control competitive grasses and weeds around plants by mowing, mulching, and/or chemical control until plants are well-established. Control all noxious weeds as required by state law;
- Provide supplemental water as needed;
- Replace dead trees and shrubs until the barrier is functional;
- Thin or prune the barrier as needed to maintain its function;
- For windbreaks that are planted to reduce particulates, build-up of particulates on leaves may threaten to smother and kill the plants. When feasible, periodically remove the accumulated particulate matter from the leaves by hosing the plants with water. Excessive accumulation of particulates may require installation of additional barriers such as fencing or netting to protect the plants.

Additional Instructions:

Planner Certification

This Windbreak/Shelterbelt plan meets the requirements of NRCS Conservation Practice Standard 380.

Signature

Title

Date

Certification of Practice Completion

This Windbreak/Shelterbelt practice has been completed and maintained according to NRCS plans and specifications. (Indicate in Practice Specifications if there were any changes to the planned practice and acreage.)

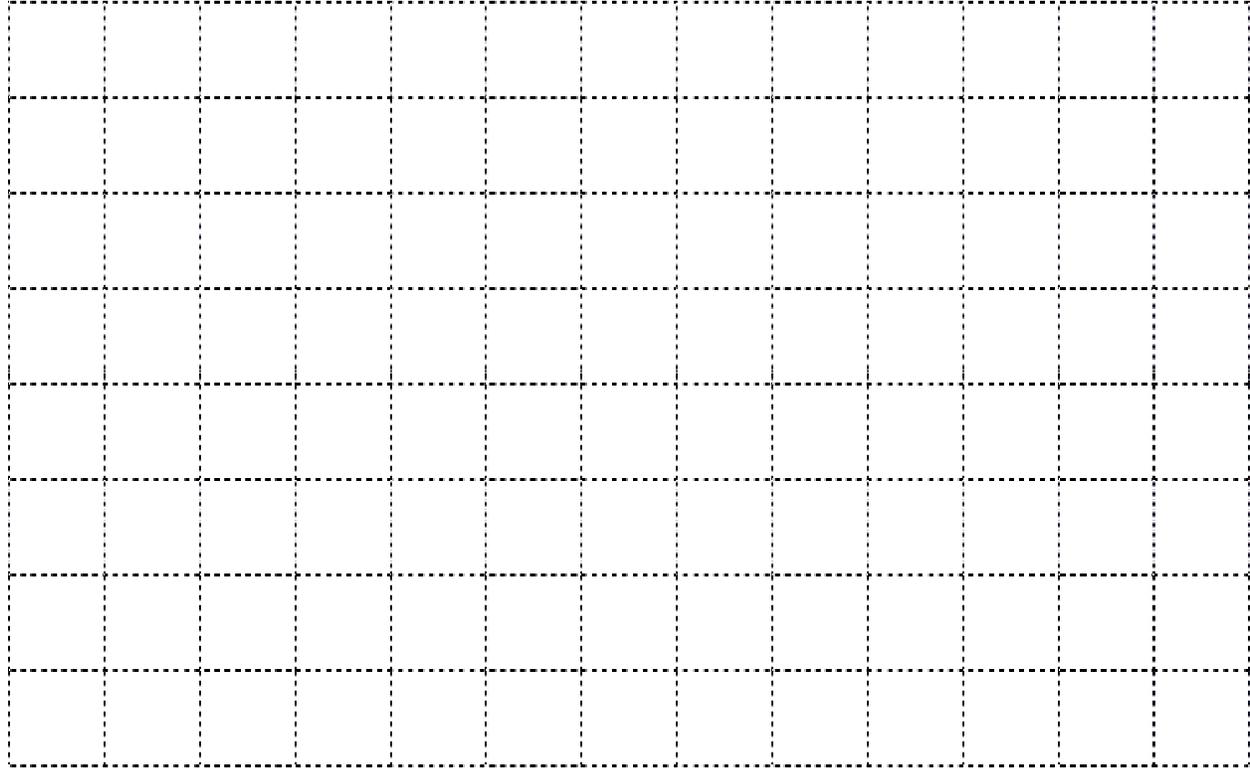
Signature

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:

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