

Hedgerow Planting (Ft.) 422

DEFINITION

Establishment of dense vegetation in a linear design to achieve one or more natural resource conservation purpose.

PURPOSES

Providing at least one of the following conservation functions:

- Food, cover, and corridors for terrestrial wildlife.
- To intercept airborne particulate matter.
- To reduce chemical drift and odor movement.
- Living fences.
- Boundary delineation.
- Contour guidelines.
- Screens and barriers to noise.
- Improvement of landscape appearance.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies wherever it will accomplish at least one of the purposes stated above.

CRITERIA

General Criteria Applicable to All Purposes

Hedgerows shall be established using woody plants or perennial bunch grasses producing erect stems attaining average heights of at least 3 feet and persisting well over winter. Site preparation, establishment, and planting dates shall be in

accordance with Practice Standard 380 (Windbreak/Shelterbelt Establishment) for woody vegetation and 327 (Conservation Cover) for grasses.

Plants selected must be suited and adapted to the soils, climate, and conservation purpose. Refer to the electronic Field Office Technical Guide (eFOTG), Section II, I. Forestry Information and/or Practice Standard 327 for recommended species.

The minimum width of a hedgerow is 15 feet or two rows of woody plants and the maximum width is 66 feet.

No plant listed by the state as a noxious weed shall be established in a hedgerow. Known invasive species shall not be used, see eFOTG, Section II, G. Invasive Plant Species List.

The practice shall be protected from livestock grazing and trampling to the extent necessary to ensure that it will perform the intended purpose(s).

When grasses are used, management practices and activities will be conducted according to the Grassland Activity Dates as found in the Section IV, F. Ecological Science Specifications of eFOTG. Exceptions will be allowed for periodic burning or mowing when necessary to maintain the plant community. Weeds will need to be controlled during the plant establishment period (up to 3 years).

For woody plants, the minimum spacing will be in accordance with Table 1 and Table 2 of Practice Standard 380 (Windbreak/Shelterbelt Establishment). For optimum wildlife cover, space shrubs 10-12 feet apart within the row.

All planned work shall comply with federal, state, and local laws and regulations.

Additional Criteria for Wildlife Food and Cover

Establish at least two species of native vegetation.

Select plants that provide cover and/or food such as berries, nuts, or nectar sources to support the landowner's wildlife objectives.

Minimum hedgerow width, at maturity, shall be 30 feet.

In plantings adjacent to small watercourses, the plantings shall be site-adapted, large enough at maturity, and installed close enough to shade the watercourse.

Additional Criteria for Wildlife Travel Lanes

Wildlife travel lanes are linear plantings that provide cover and food for wildlife, while allowing wildlife to move safely from one area to another, across areas lacking adequate cover. These lanes provide linkages for fragmented habitats to maintain wildlife populations.

When woody vegetation is used, travel lanes are a minimum of three or more rows of trees and/or shrubs. Select plant species that provide fruits, berries, or nuts for wildlife foods and nectar for pollinators. When grasses are used, travel lanes should include a minimum of three native species and have a minimum width of 33 feet.

Important Note: Wildlife corridors, which are similar to travel lanes, are a minimum of 66 feet wide. Corridors consist of native plant species that replicate the habitats being connected. Refer to Practice Standard 645 (Upland Wildlife Habitat Development) and Conservation Management Sheet 645-1, Wildlife Corridor Development.

Additional Criteria for Living Fences

Selected plants shall attain a size adequate to create a barrier to contain livestock or humans, as needed. Consider species such as raspberries, native roses, or hawthorns.

If the purpose is to contain livestock, selected plants shall not be poisonous or hazardous to the animals.

Additional Criteria for Boundary Delineation

Hedgerows shall be aligned along boundaries of fields, or forestlands to differentiate land management units.

Additional Criteria for Contour Guidelines

Hedgerows shall be aligned so they provide permanent contour markers supporting implementation of Practice Standard 330 (Contour

Farming) or 585 (Stripcropping). Refer to those conservation practice standards for alignment criteria.

Additional Criteria for Screens and Noise Barriers

Screening hedgerows provide privacy, hide unsightly areas from view, or reduce noise.

Hedgerows shall be located where they most completely obstruct a line of sight or offensive sound.

Selected plants shall attain a height and fullness sufficient to break the line of sight or baffle sound. See Practice Standard 380 (Windbreak/Shelterbelt Establishment) for further guidance.

Additional Criteria for Improvement of Landscape Appearance

The hedgerow design shall meet the aesthetic objectives of the landowner.

Plants shall be selected based upon the landowner's preferences for color, texture, and growth habit.

Additional Criteria for Reducing Particulate Matter Movement

The hedgerow will be oriented as close to perpendicular to the prevailing wind direction as possible.

Hedgerow density on the upwind side shall be at least 50% at maturity.

Hedgerow density adjacent to the particulate source shall be at least 65% at maturity. See the reference "How Windbreaks Work" for further guidance in determining density.

Additional Criteria to Reduce Odor Movement and/or Chemical Drift

Orientation of the hedgerow shall be as close to perpendicular to the prevailing wind direction during the period of concern as possible. Hedgerows may be placed between the source of the odor or chemical drift and the sensitive areas or be located upwind of the odor producing area and the chemical application area.

Tree and shrub species used shall have foliar and structural characteristics that optimize interception, adsorption, and absorption of airborne chemicals or odors.

CONSIDERATIONS

General

Planting a hedgerow larger than the minimum length and width will increase the amount of carbon stored in the soil and biomass.

Hedgerows can be planned in combination with other practices to develop complete conservation systems that enhance landscape aesthetics, reduce soil erosion, improve sediment trapping, improve water quality, and provide wildlife habitat.

Hedgerows following land contours create meandering lines on the landscape, produce a natural appearance, and increase the availability of “edge” wildlife habitats.

Hedgerows containing a mixture of native fruit or nut-bearing shrubs and small trees provide greatest environmental benefits.

Consider the amount of shading a hedgerow will provide at maturity. Shading may positively or negatively impact growth of adjacent plants, microclimate, and aesthetics.

Limiting renovation events to one-third of a hedgerow’s length or width will prevent sudden elimination of the practice’s wildlife habitat function.

Periodic root pruning can reduce nutrient and water robbing from adjacent cropland. See Practice Standard 650 (Windbreak/Shelterbelt Renovation) for further guidance on root pruning.

Consider avoiding the use of plants that spread by root suckers, as hedgerow may expand beyond the desired treatment area.

Wildlife Food, Cover, and Corridors

Hedgerows can provide travel lanes or corridors that allow wildlife to move safely across a landscape.

Generally, wider corridors accommodate more wildlife use.

Linking fragmented habitats may increase wildlife use of an area.

In grassland ecosystems, woody hedgerows may adversely affect area-sensitive nesting birds by fragmenting habitat patches and increasing the risk of predation.

Hedgerows can add to the availability of naturally occurring wildlife foods.

Hedgerows can provide wildlife with cover for feeding, loafing, nesting, and caring for young.

Dense or thorny shrub thickets provide songbirds with important nesting sites and a refuge to escape predators.

Establishment of evergreen plants provides year-round concealment and thermal cover for wildlife.

Establishment of herbaceous vegetation along the edges of a woody hedgerow can further enhance the habitat functions of a hedgerow.

Installation of artificial nest boxes with predator guards can encourage cavity-nesting birds and small mammals to utilize a hedgerow. Nest boxes need to be properly maintained to be effective.

Living Fences

Thorny shrubs and trees can improve a living fence’s barrier effect.

Screens and Noise Barriers

From eye-level, hedgerows reduce the line-of-sight across open areas, concealing objects behind them from view.

Consider the design from viewpoints on both sides of the screen.

Locate noise barriers as close to the source of noise as possible.

Combination of shrubs and/or trees can create more effective screens than single species plantings.

Evergreens provide foliage that can maintain a screen’s year-round effectiveness.

Improving Landscape Appearance

Consider plants' seasonal display of colors on bark, twigs, foliage, flowers, and fruit.

Consider plants' growth habits (outline, height, and width).

Incidental Trapping of Snow or Soil

Although not a primary purpose, hedgerows may incidentally trap wind blown snow or soil.

Consider installing hedgerows on alignments that prevent trapping and accumulation of snow and sand on public roads.

Refer to Practice Standard 380 (Windbreak/Shelterbelt Establishment) for criteria when snow or sand trapping is a primary conservation purpose.

PLANS AND SPECIFICATIONS

Plans and specifications for this practice shall be prepared for each site. Plans and specifications shall be recorded using approved specification sheets, job sheets, or narrative documentation in the conservation plan, or other acceptable documentation. Plans and specifications will include project location, spacing requirements, species and amounts, timing, and establishment criteria.

OPERATION AND MAINTENANCE

Vegetation shall be maintained to ensure it continues to meet the planned purpose.

Supplemental planting may be required when survival is too low to produce a continuous hedgerow.

Vegetation shall be protected from unwanted fire and grazing throughout its life span.

Pests shall be monitored and controlled.

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

Renovation activities shall be scheduled to prevent disturbance during the wildlife nesting season.

REFERENCES

National Biology Handbook, Part 614.4, "Conservation Corridor Planning at the Landscape Level." Natural Resources Conservation Service, August 1999.

Michigan Department of Natural Resources, 1999, "Managing Michigan's Wildlife: A Landowner's Guide." www.michigan.gov/dnrlandownersguide

"How Windbreaks Work," University of Nebraska Extension; EC 91-1763-B., 1991, <http://www.unl.edu/nac/brochures/ec1763/ec1763.pdf>