

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**HEDGEROW PLANTING**

(Feet)

**CODE 422**

**DEFINITION:**

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

**PURPOSE:**

Providing at least one of the following conservation functions:

- Food, cover and corridors for terrestrial wildlife.
- Food and cover for aquatic organisms that live in *streams* with bankfull width less than 5 feet.
- *Improvement of water quality and aquatic habitat in ditches and channels modified for agricultural uses with bankfull widths less than 15 feet.*
- Living fences
- Boundary delineation
- To intercept airborne particulate matter.
- To reduce chemical drift and odor movement.
- To increase carbon storage in biomass and soils.
- Contour guidelines
- Screens and barriers to noise and dust
- 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.

Plant densities will be determined by using the Washington State Seeding Guide PM Technical Note 1 and be clearly identified in the specification.

Plants selected must be suited and adapted to the soils, climate and conservation purpose.

No plant listed by the state as a noxious weed shall be established in a hedgerow.

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

Competing vegetation shall be controlled until the hedgerow becomes established. Control shall continue beyond the establishment period, if necessary.

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

**Additional Criteria for Food, cover and Corridors for Terrestrial Wildlife**

Establish at least two species of native

vegetation.

Selected plants shall provide cover and/or food to support the landowner's wildlife objectives.

Minimum hedgerow width, at maturity, shall be 15 feet. This may necessitate establishment of more than one row of plants.

***Additional Criteria for Food, Cover and Corridors for Aquatic Wildlife in Streams, Ditches, and Channels Modified for Agricultural Uses***

*Establish at least two woody species of vegetation.*

*Choose native plants whenever possible.*

*Selected plants shall provide cover and/or food to support the landowner's aquatic wildlife objectives.*

*Minimum hedgerow width, at maturity, shall be 15 feet. This may necessitate establishment of at least one row of plants.*

*To improve aquatic habitat in a small watercourse, the plantings shall be site-adapted, large enough at maturity and installed close enough to shade the watercourse.*

*Plants selected shall have enough root mass to adequately provide bank protection.*

*Plantings will start above the top of the bank.*

**Additional Criteria for Living Fences**

Selected plants shall attain a size adequate to create a barrier to protect livestock or humans, as needed.

Selected plants shall have a densely branched growth habit.

If the purpose is to protect 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 woodlands to differentiate land management units.

**Additional Criteria for Contour Guidelines**

Hedgerows shall be aligned so they provide permanent contour markers supporting implementation of the Contour Farming (330) and Contour Stripcropping (585) Conservation Practices. Refer to those conservation practices standards (above) for alignment criteria.

**Additional Criteria for Screens, 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, offensive sound.

Selected plants shall attain a height and fullness sufficient to break the line of sight, or baffles sound.

**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.

**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, and between the source of the odor or chemical drift and the sensitive and the sensitive areas.

Hedgerows shall 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 shrubs and small trees provide greatest environmental benefits.

Use of bare root and containerized seedlings will accelerate hedgerow development.

Consider the amount of shading a hedgerow will provide at maturity. Shading may 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.

### **Considerations for 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, hedgerows may adversely affect area-sensitive nesting birds by fragmenting habitat patches and increasing the risk of predation.

Hedgerows can complement 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 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.

### **Considerations for Living Fences**

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

### **Considerations for 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.

### **Considerations for Improving Landscape Appearance**

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

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

### **Considerations for Water Quality and Quantity**

Water quality benefits may arise from:

- a. Arresting sediment movement and trapping sediment-attached substances.
- b. Infiltration and assimilation of plant nutrients.
- c. Water cooling effects resulting from increased shade on small watercourses.

A hedgerow will increase surface water infiltration by improving of soil structure around its root zone. However, evapo-transpiration may reduce groundwater recharge benefits.

### **Considerations for Incidental Trapping of Snow or Sand**

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

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

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

### **PLANS AND SPECIFICATIONS:**

When using this Practice Standard for wildlife habitat improvement, development of management options will be based on the use of the Aquatic & Terrestrial Habitat Evaluation Guide (Biology Technical Note 14). This habitat evaluation process will result in a quality rating for habitat based on a Resource Management System (RMS). The RMS must meet the minimum acceptable level as listed in Section III of the Field Office Technical Guide.

Specifications will be developed for each site. The specifications will be prepared in accordance with the criteria for the Standard and shall describe the requirements for applying the Practice to achieve its intended

use. Appropriate job sheets, narrative statements in the conservation plan, or other acceptable documentation, will be used to record the items needed to carry out this practice. Requirements for operation and maintenance of the practice will be incorporated into site specifications.

The conservation plan will:

1. Designate the location of all hedgerows within the area covered by the conservation plan.
2. List the plant species, which will be used in the hedgerow planting.
3. List those practices necessary to manage and/or maintain the hedgerow, such as irrigation on dry land sites.
4. Where appropriate, haying and/or livestock grazing plans will be developed so as to allow the establishment, development, and management of the hedgerow.
5. Include an inspection schedule if installed, to assess condition and functionality of the hedgerow.

### **OPERATION AND MAINTENANCE**

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

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

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**

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