

Prepared for: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Farm: \_\_\_\_\_ Tract: \_\_\_\_\_ Date: \_\_\_\_\_



## DEFINITION

Vegetative barriers are permanent strips of stiff, dense vegetation along the general contour of slopes or across concentrated flow areas.

## PURPOSE

- Reduce sheet and rill erosion.
- Reduce ephemeral gully erosion.
- Manage water flow.
- Stabilize steep slopes.
- Trap sediment.

## CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all eroding areas, including cropland, forest land, rangeland, farmsteads, mined land, and construction sites.

## CRITERIA

Vegetative barriers will be established with stiff-stemmed perennial vegetation specified in the *plant materials* section of this job sheet.

Gaps between plants will be no greater than 3 inches at the end of the first growing season.

Species must be adapted to local soil and climate conditions, be easily established, long-lived, and manageable. Species will be selected that exhibit characteristics that are required for adequate function such as: emergence through several inches of sediment or resuming growth from buried stem nodes, rhizomatous or stoloniferous growth habit, and stems that remain intact and erect year round. Care will be taken when selecting plants to avoid invasive species.

## Establishment of Vegetative Barriers.

Barriers may be established vegetatively or from seed.

Barriers established vegetatively will be planted in a single row at a dense enough spacing to insure a functional barrier in one growing season.

For most herbaceous species, this will require a spacing of no more than 6 inches for bare-root seedlings, cuttings, sod chunks, plugs, rhizomes, or divisions consisting of no less than 5 viable stems. Suckering shrubs or herbaceous species established from 6-inch (gallon) potted material will be established at a spacing of no more than 12 inches.

Site preparation must be done in a manner to ensure seed germination or vegetated material establishment.

Optimum planting dates for the species will be used. Plants will be placed to insure good root-to-soil contact and packed after planting.

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, DC 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer. To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.



General specifications for vegetative barriers require: 1) a minimum width for each barrier strip of 36 inches (either a solid strip 36 inches wide or two rows planted 36 inches apart); 2) a maximum vertical and horizontal spacing between barriers determined by using terrace spacing equations (see Terrace, practice standard 600); 3) alignment as near to the contour as practicable, with minor adjustments to accommodate farming operations; and 4) plants having erect stems that are stiff enough to remain upright during heavy runoff events.

Appropriate temporary measures, such as erosion control blankets, silt barriers or mulches, will be used, as appropriate, during the establishment period.

**Barrier Alignment.** Obstructions, such as trees and debris that interfere with vegetative growth and maintenance, will be removed to improve vegetation establishment and alignment.

**Barrier Width.** Barrier widths will be the larger of 3 feet wide or 0.75 times the design vertical interval. Broadcast or drilled seed will be sown in a strip at least 3 feet wide. Seed sown with a row planter will be seeded in a minimum of 2 rows.

## CONSIDERATIONS

On tilled fields, consider soil profiles that have sufficient depth to retain productivity where benches will develop as soil is moved down gradient by tillage. Soil upslope of barriers will gradually build up while soil will be removed down slope of the barrier. The effect of these should be considered with respect to soil depth,

subsoil characteristics and response to amendments.

Soils in the area of the fields where barriers are being established will be evaluated for their potential to create field access problems by ponding water behind the barriers. Subsurface drains perpendicular to or along the length of the barrier may improve drainage of the area upslope of the barrier.

Consider effects on erosion and the movement of sediment, pathogens and soluble and sediment-attached substances that would be carried by the runoff.

Consider the potential for development of saline seeps or other salinity problems resulting from increased infiltration in soils that have restrictive layers.

Consider the impact of land taken out of production and occupied by the vegetative barriers.

## OPERATION AND MAINTENANCE

- Establishment failures will be replanted or reseeded immediately, short gaps in seeded barriers may be reestablished more effectively and immediately with transplanted plant material.
- Mowing of herbaceous barriers may be used as a management practice to encourage the development of a dense stand and prevent shading of crops in adjacent fields. Mowing will not be closer than 15 inches or the recommended height for the species, whichever is taller. Mowing will be scheduled to coincide with access through crops in adjacent fields. Mowing in concentrated flow areas is discouraged because it will lower the vegetative stiffness index (VSI) by reducing average stem diameter.
- Burning of herbaceous barriers may be used as a management practice, based on a case by case analysis, to encourage the development of a dense stand and prevent the accumulation of residue in the barrier. Burning will be performed when the vegetation is dormant and with adequate supervision to prevent the fire from damaging surrounding areas. A controlled burn plan will be required.
- Weed control will be accomplished by mowing or by spraying or wick application of labeled herbicides.
- Vegetation in the barrier will be tolerant to or protected from herbicide used in the cropped field.
- Crop tillage and planting operations will be parallel with the vegetative barrier.
- Pest control in adjacent fields will be performed with techniques and pesticides that will not damage the vegetative barrier.
- Washouts or rills that develop will be filled and replanted immediately. Short gaps in established barriers will be reestablished with transplanted plant material.
- Vegetative barriers will not be used as a field road or turn row. Vegetative barriers in concentrated flow areas will not be crossed with machinery.
- Vegetative barriers will not be crossed with water furrow plows or similar implements to cut drainage ditches to allow the passage of surface and subsurface water. If necessary, water will be drained with underground outlets installed up gradient of the barrier.

Landowner \_\_\_\_\_ Farm/Tract Number \_\_\_\_\_  
 Field number \_\_\_\_\_

Purpose (check all that apply)				
<input type="checkbox"/> Reduce sheet and rill erosion		<input type="checkbox"/> Stabilize steep slopes		
<input type="checkbox"/> Reduce ephemeral gully erosion		<input type="checkbox"/> Trap sediment		
<input type="checkbox"/> Manage water flow				
Layout, Soil Amendments, Fertilization	Barrier 1	Barrier 2	Barrier 3	Barrier 4
Barrier width (feet)				
Rows per barrier				
Barrier length (feet)				
Barriers area (total acres)				
Field slope (%)				
Lime (tons/acre)				
N (lbs/acre)				
P <sub>2</sub> O <sub>5</sub> (lbs/acre)				
K <sub>2</sub> O (lbs/acre)				
Plant Materials (species/cultivars)	Seeding Rate (pure live seed – lbs/acre)		Seeding Date	
Barrier 1:				
1				
2				
3				
Barrier 2:				
1				
2				
3				
Barrier 3:				
1				
2				
3				
Barrier 4:				
1				
2				
3				
Site Preparation				
<i>Prepare a firm seedbed. Apply lime and fertilizer as indicated by soil testing. Additional requirements:</i>				
Planting Method				
<i>Drill seed _____ inches deep uniformly in the row. Establish vegetation according to the specified seeding rate. If necessary, mulch newly seeded area with _____ tons per acre of mulch material. A small grain crop may be needed as a companion crop at the rate of _____ pounds per acre (clip or harvest before it heads out). Additional requirements:</i>				

**Operation and Maintenance**

*Vegetative barriers must be inspected periodically to assure no voids develop in the protective strips of vegetation. Shape and replant washouts and rills as necessary to maintain plant density. Control spreading of barrier plants into cropped areas. Control weeds and fertilize to maintain plant vigor. Control grazing and equipment traffic as necessary to protect barriers. Additional requirements:*

**LANDOWNER/OPERATOR’S ACKNOWLEDGEMENT:**

I agree to install this practice as designed and planned.

Cooperator: \_\_\_\_\_ Date \_\_\_\_\_

This practice is designed and planned according to NRCS NC Standards and Specifications.

Conservationist: \_\_\_\_\_ Date \_\_\_\_\_

**PRACTICE COMPLETION:**

This practice was installed and maintained in accordance with this job sheet.

Completed by: \_\_\_\_\_ Date \_\_\_\_\_

**Additional Specifications and Notes:**
