

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CRITICAL AREA PLANTING

(Ac.)

CODE 342

DEFINITION

Establishing permanent vegetation on sites that have or are expected to have high erosion rates and on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal practices.

PURPOSE

This practice may be applied to accomplish one or more of the following:

- Stabilize areas with existing or expected high rates of soil erosion by water.
- Stabilize areas with existing or expected high rates of soil erosion by wind.
- Rehabilitate and revegetate degraded sites that cannot be stabilized through normal farming practices.
- Stabilize coastal areas, such as sand dunes and riparian areas.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to highly disturbed areas such as active or abandoned mined lands, urban conservation sites, road construction areas, conservation practice construction sites, areas needing stabilization before or after natural disasters such as floods, hurricanes, tornados, and wildfires, and other areas degraded by human activities or natural events.

CRITERIA

General Criteria Applicable To All Purposes

A site investigation shall be conducted to identify any physical, chemical, or biological conditions that could affect the successful establishment and maintenance of vegetation.

No plants on the state noxious weeds list shall be planted.

Site preparation and seeding or planting shall be done at a time and in a manner that best ensures survival and growth of the selected species. The ground cover that constitutes successful establishment (e.g. minimum percent ground/canopy cover, percent survival, stand density, etc) shall be specified before application.

Fertilization, mulching, or other facilitating practices for plant growth shall be timed and applied to accelerate establishment of selected species. Follow the criteria in the NUTRIENT MANAGEMENT (590) practice standard or apply an all-inclusive fertilizer and limestone application as described below.

The fertilizer application rate will depend on the type of grasses and legumes to be planted. When no soil test is available, apply the following minimum amounts of fertilizer in pounds per acre:

	N	P ₂ O ₅	K ₂ O
Cool Season Grass	60	90	90
Cool Season Grass and Legumes	30	90	90
Warm Season Grass	30	90	90

This is a draft standard for review and comment purposes only. To obtain the current version of this standard, contact the Natural Resources Conservation Service or download the standard from the electronic Field Office Technical Guide for Missouri. (Italic text indicates state additions to the national standard and blue text indicates a change from current standard NRCS MOFOTG.

and/or Legumes

Woody Species 15 45 45

Apply finely-ground agriculture limestone to bring soil pH to a range suitable for the planned species. When a current soil test is not available, apply a minimum of 1000 pounds per acre ENM north of the Missouri River and a minimum of 1500 pounds per acre ENM south of the river. The lime requirement may be waived if the site is less than one-tenth acre, the pH of the entire soil profile exceeds 5.0, and the soil condition is suited for the planned seeding. Pemiscot and New Madrid Counties are exempt from applying lime unless required by a soil test.

Lime, phosphate (P_2O_5) and potash (K_2O) will be incorporated to a depth of 3 to 6 inches on flatter slopes. Lime and fertilizer may be broadcast without incorporation on slopes too steep for safe operation of tillage equipment or where surface obstructions hinder tillage operations.

Apply all or a portion of the nitrogen requirement immediately prior to or during seeding. Rates of 10 to 20 pounds per acre for grass and legume mixtures and 20 to 40 pounds per acre for grasses are desired at planting. If a split application of nitrogen (N) is used to reduce weed pressure, apply the remainder of the N by topdressing after the planting is established.

For efficient use of lime and fertilizer, newly constructed narrow base and grass back terraces may be limed and fertilized based on soil test recommendations for the next crop to be planted in the field. If the cropland is not normally fertilized for the next crop, use the all-inclusive rates.

All critical area plantings will contain a companion crop, will be mulched according to the MULCHING (484) practice standard, or will be planted with no till equipment into existing residue cover adequate to stabilize the soil resource.

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Planting dates shall be scheduled during approved dates for the species and to optimize soil moisture for germination and establishment.

Species selected for seeding or planting shall be suited to current site conditions and intended uses. Selected species will have the capacity to achieve adequate density and vigor within an appropriate time frame to stabilize the site sufficiently to permit suited uses with ordinary management activities.

Species, rates of seeding or planting, minimum quality of planting stock, such as PLS or stem caliper, and method of establishment shall be specified before application. Only viable, high quality seed or planting stock will be used.

The seed mixture will contain at least 60 percent perennial grasses (based on pure live seed) rated excellent or good for erosion control in Table 1 of the VEGETATION ESTABLISHMENT, HERBACEOUS SEEDING (723) specification. The seed mixture will not contain any species with a poor erosion control rating.

[Trees and shrubs will be planted, established, and maintained according to TREE / SHRUB SITE PREPARATION \(490\) and TREE / SHRUB ESTABLISHMENT \(612\) conservation practice standards.](#)

Plantings shall be protected from pests (e.g. weeds, insects, diseases, livestock, wildlife) as necessary to ensure stand establishment.

The amount of plant biomass and cover needed to reduce wind and water erosion to the planned soil loss objective shall be determined using the current approved wind and water erosion prediction technology.

Additional Criteria To Restore Degraded Sites

If gullies or deep rills are present, they will be treated, if feasible, to allow equipment operation and ensure proper site and seedbed preparation.

Based on a current soil test, soil amendments will be added as necessary to ameliorate or eliminate physical or chemical conditions that inhibit plant establishment and growth.

Required amendments, such as compost or manure to add organic matter and improve soil structure and water holding capacity; agricultural limestone to increase the pH of acid soils; or elemental sulfur to lower the pH of calcareous soils shall be included in the site specification with amounts, timing, and method of application.

CONSIDERATIONS

Native species or mixes that are adapted to the site and have multiple values should be considered.

Avoid species that may harbor pests. Species diversity should be considered to avoid loss of function due to species-specific pests.

Planning and installation of other conservation practices such as diversions, land smoothing, obstruction removal, surface and subsurface drains, or underground outlets may be necessary to prepare a critical area for planting.

When planning nutrient applications and tillage treatments, encourage soil carbon buildup while discouraging greenhouse gas emissions.

Where wildlife is a secondary land use objective, the food and cover value of the planting can be enhanced by using an approved habitat evaluation procedure (Wildlife Habitat Appraisal Guide). This procedure may aid in selecting plant species.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and shall describe the requirements for applying this practice to meet the intended purpose or purposes.

Use the criteria in the VEGETATION ESTABLISHMENT, HERBACEOUS SEEDING (723) specification for this conservation treatment when herbaceous species are involved.

Specifications shall be recorded and filed using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

The following elements shall be addressed, as a minimum, in the plan to meet the intended purpose:

- Site preparation
- Topsoil application
- Fertilizer rate, timing, and method of application
- Seedbed preparation
- Methods of seeding or planting
- Time of seeding or planting
- Seed or plant source
- Seed analysis
- Seeding or planting rate
- Mulching
- Planting trees, shrubs, or vines
- Supplemental water for plant establishment
- Protection of plantings.

OPERATION AND MAINTENANCE

Use of the area shall be managed as long as necessary to stabilize the site and achieve the intended purpose.

Control or exclude pests that will interfere with the timely establishment of vegetation.

Inspections, reseeding or replanting, fertilization, and pest control may be needed to insure that this practice functions as intended throughout its expected life. Observation of establishment progress and success should be performed at regular intervals until the practice has met the criteria for successful establishment and implementation.

Where establishment of vegetation creates potential habitat for grass-nesting birds, the impacts of vegetative disturbance upon these birds and their nests should be considered and included in operation and maintenance plans. Maintenance activities that result in disturbance of vegetation will not be conducted during the primary nesting season for grass-nesting birds where occupied habitat for these species exists except during an establishment period for the seeded or planted stand.