NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

BEDDING

(Ac.)

CODE 310

DEFINITION

Plowing, blading, or otherwise elevating the surface of flat land into a series of broad, low ridges separated by shallow, parallel channels with positive drainage.

PURPOSE

To improve the drainage of surface water.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all land uses with flat to nearly flat topography and poorly drained soils where a wetland determination and scope and effect evaluation permit the installation of this practice.

CRITERIA

Beds. Bedding shall run in the direction of the available land slope.

Beds shall be shaped and cross-row ditches shall be used, where required to provide free movement of water from the crown to the dead furrow.

Soils must be of sufficient depth to provide a satisfactory root zone after bedding.

Crown height, width, and maximum length of beds shall be determined on the basis of site conditions and crop requirements.

Crowns shall provide a cross slope of not less than 0.3 percent.

Capacity. Channel and outlet capacities shall be based on the appropriate surface drainage coefficient, or on recommended removal rates from local drainage guides.

Hydraulic Gradient. Parallel channels shall be graded toward an outlet.

To prevent channel erosion, design velocities shall not exceed those in NRCS National Engineering Handbook, Part 650, Engineering Field Handbook, Chapter 14, Water Management (Drainage), 650.1412(d).

Outlet. Drainage outlets must have sufficient capacity and depth to provide for removal of water from the parallel channels.

CONSIDERATIONS

Flatter fields and tighter soils require narrower beds.

Consider effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.

Parallel channels may be shallow and side slopes steep or flat, based on the soil, crops grown, and local construction and maintenance methods.

Areas where the rooting depth may limit plant growth after construction of the beds should be identified on the plan map.

Consider practices that will mitigate off-site water quality impacts (i.e., wetland treatment areas, filter strips, buffer strips, etc.).

Introduction of non-native species, (e.g. pines introduced to former bottomland hardwood habitat) may introduce species destructive to agricultural crops, or increase the risk of damage from pests or disease.

Soil disturbance increases the potential for establishment of invasive plant species.

PLANS AND SPECIFICATIONS

Plans and specifications for bedding shall identify the area where the practice will be applied; direction of channel drainage; crown height, side slope, and width of bed cross section; and location of outlets.

OPERATION AND MAINTAINENCE

The beds shall be maintained to the designed height. Remove sediment from the channels as necessary to facilitate drainage and to prevent ponding. Inspect channels and outlets for damage after storm events. Maintain channels and outlets in a stable condition.

REFERENCES

USDA-NRCS, National Engineering Handbook, Part 650, Engineering Field Handbook, Chapter 14, Water Management (Drainage).