NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

# HEAVY USE AREA PROTECTION

(acre)
CODE 561

## DEFINITION

Protecting heavily used areas by establishing vegetative cover, by surfacing with suitable materials, or by installing needed structures.

### Scope

This standard does not include critical area planting (342) or recreation area improvement (562).

## PURPOSES

To stabilize urban, recreational, or facility areas frequently and intensely used by people, animals, or vehicles.

## CONDITIONS WHERE PRACTICE APPLIES

On urban and recreation areas or other frequently and intensely used areas that require special treatment to protect them from erosion or other deterioration.

## CRITERIA

### Drainage and erosion control

Provision shall be made for surface and subsurface drainage, as needed, and for disposal of runoff without causing erosion.

### Base course

All areas to be paved shall have a 6-in. base course of gravel, crushed stone, or other suitable materials. The material in place may be used if it is adequate.

Areas that support automobile traffic shall be designed for a wheel load of at least 4,000 lb.

### Surface treatment

The thickness of the asphalt course, the kind and size of aggregate, the type of proportioning of bituminous materials, and the mixing and placing of these materials shall be in accord with good highway practice for the expected loading.

The quality and thickness of concrete and the spacing and size of reinforcing steel shall be appropriate for the expected loading and in accord with sound engineering practice.

The minimum thickness for a gravel surface shall be 2 in.

If other surfacing materials are used, such as cinders, tanbark, and sawdust, the minimum thickness shall be 2 in.

### Structures

All structures shall be designed according to appropriate NRCS standards and specifications or Engineering Handbook recommendations.

### Sprays and artificial mulches

Sprays of asphalt, oil, plastic, manufactured mulches, and similar materials shall be installed according to the manufacturer's recommendations.

### Vegetative measures

Liming, fertilizer, seeding, and sodding shall be according to the planned use and the local technical guide. If vegetation is not appropriate, other measures shall be used to prevent erosion.

## CONSIDERATIONS

### Planning

Protection with materials such as asphalt and concrete may decrease the opportunity for infiltration and may result in increased runoff of essentially all of the precipitation. Protection by use of porous paving or cellular blocks will reduce these detrimental effects. Protection with vegetation may reduce runoff by increasing the opportunity time for infiltration.

More impervious protection may decrease or eliminate infiltration; the use of vegetation may increase infiltration. Where vegetation is used, transpiration may increase. Reduced infiltration may decrease potential for deep percolation and ground water recharge.

Protection may result in a general improvement of surface water quality through the reduction of erosion and the resulting sedimentation. Some increase in erosion may occur during and immediately after construction until the disturbed areas are fully stabilized.

Some increase in chemicals in surface water may occur due to the introduction of fertilizers for vegetated areas and oils and chemicals associated with paved areas. Fertilizers and pesticides used during operation and maintenance may be a source of water pollution.

Paved areas installed for livestock use will increase organic, bacteria, and nutrient loading to surface waters. Changes in ground water quality will be minor. Nitrate nitrogen applied as fertilizer in excess of vegetation needs may move with infiltrating waters. The extent of the problem, if any, may depend on the actual amount of water percolating below the root zone.

**Water Quantity**

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, and transpiration.

**Water Quality**

1. Effects on erosion and the movement of sediment, animal waste, and soluble and sediment-attached substances carried by runoff.

2. Effects of changes in surface and ground water caused by introduction of fertilizer for vegetated areas, and oils and chemicals associated with concrete and asphalt placement and other construction activities.

3. Effects of changes in surface water caused by the surfacing of confined animal feeding areas.

**Endangered Species Considerations**

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

**PLANS AND SPECIFICATIONS**

Plans and specifications for heavy use area protection shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

**OPERATION AND MAINTENANCE**

An operation and maintenance plan must be prepared by the Designer for use by the owner or other responsible for operating this practice. The plan should provide specific instructions for operating and maintaining the system to insure that it functions properly. It should also provide for periodic inspections and prompt repair or replacement of damage components.