

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

MOLE DRAIN

(feet)
CODE 482

DEFINITION

An underground conduit constructed by pulling a bullet-shaped cylinder through the soil.

Scope

This standard covers the requirements for the planning and the installation of a system of subsurface earthen channels and its facilitating and protecting appurtenances.

PURPOSES

To establish a system of subsurface channels for removal of trapped surface and subsurface water from land where the use of buried drains is physically or economically impractical to complete the drainage required.

CONDITIONS WHERE PRACTICE APPLIES

Mole drains may be used in hayland and cropland in highly cohesive or fibrous soils that are free of stones, gravel, or sand lenses if the area served is small and if an outlet is available or can be constructed to provided continuously free outfall from the drains. They may also be used as a supplement to other drains.

CRITERIA

Mole drains shall be installed according to an approved plan, or as modified by an authorized technician at the site.

The location, grade, length of line, depth, spacing and size of drains, and the outlet protection for such drains shall meet requirements of Section 16, Soil Conservation Service National Engineering Handbook, or as modified by approved local drainage guide.

CONSIDERATIONS

Water Quantity

1. Effects on runoff, infiltration, deep percolation, and potential ground water recharge.
2. Effects of increased drainage waters on downstream base flow.

Water Quality

1. Effects of increase in dissolved substances that may be discharged to streams.
2. Effects on aquifer recharge water quality.
3. Reduction in the yields of sediment or sediment-attached substances, and effects on downstream water quality and water use.
4. Downstream temperature changes.
5. Effects on the visual quality of downstream waters.

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 installing mole drains shall be in keeping with this standard and shall describe the requirements for proper installation of 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.