

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.

PURPOSE

To establish a system of subsurface earthen channels for removal of trapped surface and subsurface water.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies where the use of buried drains is physically or economically impractical to complete the drainage required. Mole drains may be used in fields with 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 provide continuously free outfall from the drains. They may also be used as a supplement to other drains.

CRITERIA

Planned work shall comply with all federal, state, **tribal**, and local laws and regulations, **including those involving water rights, land use, pollution control, property easements, wetlands, preservation of cultural resources, and endangered species.**

Size. The minimum diameter of a mole drain shall be 4 inches. A 6-inch mole will usually create a hole approximately 4½ inches in diameter.

Location, grade, and length. The location, grade, length of line, depth, spacing and size of

drains, and the outlet protection for such drains shall meet requirements of NRCS National Engineering Handbook, **Part 650, Chapter 14, Drainage**, or as modified by approved local drainage guide.

Outlet. Outlets must have sufficient depth and capacity to provide continuous free outfall.

CONSIDERATIONS

When planning this practice, consider the effects:

- on runoff, infiltration, deep percolation, and potential ground water recharge
- on existing wetland hydrology
- of increased drainage waters on downstream base flow
- of an increase in dissolved substances that may be discharged to streams or aquifers
- on reduction in the yields of sediment or sediment-attached substances
- on downstream water quality, water use, and water temperature.

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.

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

NRCS, MT
August 2004

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard contact the Natural Resources Conservation Service.

NOTE: This type of font (**AaBbCcDdEe 123..**) indicates NRCS National Standards.
This type of font (**AaBbCcDdEe 123..**) indicates Montana Supplement.

Safety items for the location and notification of owners of utilities shall be included in the plans and specifications following the procedures outlined in National Engineering Manual (NEM), Part 503, Safety.

OPERATION AND MAINTENANCE

Operation and maintenance shall consist of periodic checks to determine that the outlet is open and free flowing.

The mole drains shall be reworked as needed to maintain adequate drainage.

REFERENCES

National Engineering Manual, Part 503, Safety

NRCS National Engineering Handbook, Part 650, Chapter 14, Water Management (Drainage)