



# Hillside Home Drainage

Denver Federal Center  
Building 56, Room 2604  
PO Box 25426  
Denver, Co 80225-0426

720-544-2810 - office  
[www.co.nrcs.usda.gov](http://www.co.nrcs.usda.gov)



## NOTE

*After a fire many trees are weakened from burning around the base of the trunk. The trees can fall over or blow down without warning. Shallow rooted trees can also fall. Therefore be extremely alert when around burned trees.*

### Drainage tips for hillside homeowners...

Hillside lots that have been damaged by fire or are located in a fire-damaged watershed can be susceptible to erosion, drainage and other runoff related problems. Torrential or prolonged rains cause the most damage. To treat surface drainage problems, you will first need to identify the sources of surface water (runoff) flowing onto or over your property. Walk outside and around your home. As you walk, observe the “lay” of your lot and the surrounding properties. Also, observe your roof and driveway. Is your home on top of a hill where all surface waters drain away from your home? If so, you will be concerned with holding topsoil on your property. Few homeowners live on top of a hill. So, it is more likely that water will flow onto your property from an adjacent hillside. Where will the water concentrate and how can you control the sediment that is carried with the water?

### Gutters and downspouts direct roof runoff...

Be sure that your roof is properly fitted with gutters and downspouts, that will release water onto a non-erodible surface such as a paved driveway. Or you can connect downspouts firmly to solid plastic pipe that will carry water down slope away from your home to a place where it will be released safely such as a paved roadside or storm drain ditch. Because twigs, pine needles and leaves can clog gutters and downspouts, the use of gutter guards of 1/4 to 1/2-inch hardware cloth screen is highly recommended. Clear your gutters regularly and inspect them to insure your roof runoff system is working properly.

### Curbs and berms protect sensitive slopes...

A concrete curb, a compacted earth berm, or other similar structures on the outside edge of a driveway or building pad can direct runoff away from sensitive slopes to an area where it can be released safely. The recommended height of the berm is a minimum of 12-18 inches. (see other fact sheets for information on temporary flood barriers). A pipe drop may be used to carry runoff down slope to a place where it can be released safely, such as a lined roadside ditch or storm drain.

### Lined ditches handle road and driveway runoff...

Roads and driveways can be graded toward a lined ditch or street side gutter designed to handle sheet flow water from paved surfaces and uphill slopes. At specific intervals along the main road, water may be transported under the road through a culvert and released safely onto a non-erodible surface. An energy dissipater, such as a rock lined outlet, can serve this purpose where slope is minimal. In steeper areas or where large volumes of water may accumulate, other precautions may be needed to prevent wash-outs or localized flooding.

**Proper grading promotes  
good drainage...**

Proper grading of your land helps prevent water from pooling around foundations, flooding basements or below grade structural components, and concentrating water into destructive volumes. In general, grade surfaces around a home so runoff flows away from foundations at a minimum slope of 1-2 feet for every 100 feet. Grade and compact surfaces evenly since water can collect in depressions or channelize into destructive flows.