

Silt Fence Design

How does silt fence work to reduce the amount of sediment leaving a site?

Silt fence allows sediment to settle out of the sheet-flow runoff by ponding water and also provides limited filtering of larger soil particles.

3 Components of Silt Fence Design

1. Determine the direction of the slope.

Silt fence should be placed parallel to the contour / perpendicular to the slope. If silt fence is placed off the contour it will act as a diversion.

2. Determine the steepness of the slope.

The maximum slope perpendicular to the silt fence line should be 2H:1V.

3. Determine the drainage area (the drainage area of a silt fence is the area perpendicular to the fence).

The drainage area should not exceed 1/4 acre per 100 feet of silt fence.

Additional Notes

Design the silt fence with a "smile" or J-hook shape to create a storage area and to prevent the water from running around the ends of the silt fence.

Avoid long runs of silt fence, smaller segments are preferable.

Place beyond the toe of the slope to increase the ponding effect.

Do not use in streams, channels, drain inlets, or anywhere flow is concentrated.

Do not lay out "perimeter control" silt fence along property lines; all sediment laden runoff will concentrate and overwhelm the system.

The distance of sheet flow to the silt fence should not exceed 100 feet.