

## Silt Fence Applications

IDEM Website: <http://www.in.gov/idem/>

### Recommended BMPs for Small Construction Sites

The approach and BMPs used for controlling pollutants in stormwater discharges from small construction sites may vary from those used for large sites since their characteristics can differ in many ways. For example, operators of small sites may have more limited access to qualified design personnel and technical information. Also, small sites may have less space for installing and maintaining certain BMPs.

As is the case with all construction sites, erosion and sediment control at small construction sites is best accomplished with proper planning, installation, and maintenance of controls. The following practices have shown to be efficient, cost effective, and versatile for small construction site operators to implement. The practices are divided into two categories: non-structural and structural

### Non-Structural BMPs

- Minimizing Disturbance
- Preserving Natural Vegetation
- Good Housekeeping Practices

### Structural BMPs

- Erosion Controls* : Mulch
  - Grass
  - Stockpile Covers
- Sediment Controls*
  - Silt Fence
  - Inlet Protection
  - Check Dams
  - Stabilized Construction Entrances
  - Sediment Traps

### Maintenance Considerations

Inspect silt fences regularly and frequently, as well as after each rainfall event, to make sure that they are intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If you find gaps or tears, repair or replace the fabric immediately. Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height. Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event. When you remove the silt fence, remove the accumulated sediment as well.

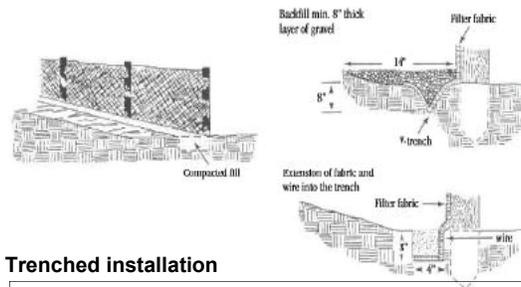
### Limitations

Do not install silt fences along areas where rocks or other hard surfaces will prevent you from uniformly anchoring the fence posts and entrenching the filter fabric. Installing fences in such an area greatly reduces their effectiveness and can create runoff channels leading offsite. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Open, windy areas present a maintenance challenge, too, because high winds can make the filter fabric deteriorate faster. Do not install silt fences across streams, ditches, or waterways.

When the pores of the fence fabric become clogged with sediment, pools of water are likely to form on the uphill side of the fence. Siting and design of the silt fence should account for this. Take care to avoid unnecessarily diverting stormwater from these pools, causing further erosion damage.



Properly installed silt fence



Trenched installation

### Silt Fences

Silt fences are used as temporary controls around sites where construction activities will disturb the soil. A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site at low/downslope areas. The filter fabric should be entrenched in the ground between the support posts. When installed correctly and inspected frequently, silt fences can be an effective barrier to sediment leaving the site in stormwater runoff. Entire perimeter fencing is not necessary. Fencing should address areas where silt would otherwise leave the site.

Silt fence installed backward, with no trenching. "Decorative"



### Effectiveness

USEPA (1993) reports the following effectiveness ranges for silt fences constructed of filter fabric that are properly installed and well maintained: average total suspended solids removal of 70 percent, sand removal of 80 to 90 percent, silt-loam removal of 50 to 80 percent, and silt-clay-loam removal of 0 to 20 percent. Removal rates are highly dependent on local conditions and installation.

### Spotlight

- Silt fence may not be necessary around the entire perimeter .
- Sod makes a cost effective alternative.