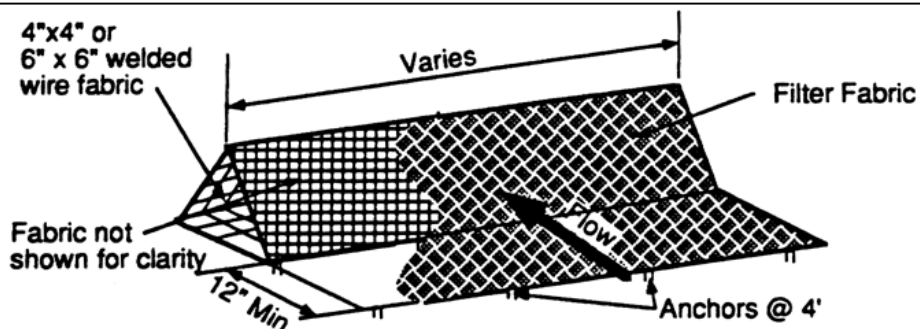


# Triangular Sediment Filter Dike



## Applications

Perimeter Control

Slope Protection

Sediment Trapping

Channel Protection

Temporary Stabilization

Permanent Stabilization

Waste Management

Housekeeping Practices

## DESCRIPTION

A Triangular Sediment Filter Dike is a self-contained silt fence consisting of filter fabric wrapped around welded wire fabric shaped into a triangular cross section. While similar in use to a silt fence, the dike is reusable, sturdier, transportable, and can be used on paved areas or in situations where it is impractical to install embedded posts for support.

## PRIMARY USE

Triangular filter dikes are used in place of silt fence, treating sediment flow at the perimeter of construction areas and at the perimeter of the site. Also, the dikes can serve as stream protection devices by preventing sediment from entering the streams or as check dams in small swales.

Triangular sediment filter dikes are especially useful for construction areas surrounded by pavement, where silt fence, filter berm, or other BMP installation is impractical.

## APPLICATIONS

Triangular dikes are used to provide perimeter control by detaining sediment on a disturbed site with drainage that would otherwise flow onto adjacent properties. Triangular dikes also serve as sediment trapping devices when used in areas of sheet flow across disturbed areas or are placed along stream banks to prevent sediment-laden sheet flow from entering the stream. The dikes can be subjected to more concentrated flows and a higher flow rate than silt fence.

## DESIGN CRITERIA

- ☐ Dikes can be used on a variety of surfaces ranging from disturbed earth to pavement.
- ☐ Dikes are to be installed along a line of constant elevation (along a contour line).
- ☐ Maximum drainage area shall be 0.25 acre per 100 linear feet of dike.
- ☐ Maximum flow to any 20 foot section of dike shall be 1 CFS.
- ☐ Maximum distance of flow to dike shall be 200 feet or less. If the slope exceeds 10 percent the flow distance shall be less than 50 feet.
- ☐ Maximum slope adjacent to the dike shall be 2:1.

## Targeted Constituents

- Sediment
- Nutrients Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Construction Wastes

## Implementation Requirements

- Capital Costs
- Maintenance
- Training
- Suitability for Slopes > 5%

## Legend

- Significant Impact
- Medium Impact
- Low Impact
- ? Unknown or Questionable Impact

**Fe=0.75**

**S-3**



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# Triangular Sediment Filter Dike

- ☐ If 50% or less of soil, by weight, passes the U.S. Standard sieve No. 200, select the apparent opening size (A.O.S.) to retain 85% of the soil.
- ☐ If 85% or more of soil, by weight, passes the U.S. Standard Sieve No. 200, triangular sediment dike shall not be used due to clogging.
- ☐ The filter fabric shall meet the material requirements specified in BMP Fact Sheet S-1, Silt Fence.
- ☐ The internal support for the dike structure shall be 6 gauge 6" x 6" wire mesh folded into triangular form eighteen (18) inches on each side.
- ☐ Filter material shall lap over ends six (6) inches to cover dike-to-dike junction; each junction shall be secured by shoat rings.
- ☐ Tie-in to the existing grade should be accomplished by (i) embedding the fabric six-inches below the top of ground on the upslope side, (ii) extending the fabric to form a 12-inch skirt on the upstream slope and covering it with 3 to 5 inches of crushed rock, or (iii) entrenching the base of the triangular dike four-inches below ground. For (ii) above, the skirt and the upslope portion of the triangular dike skeleton should be anchored by metal staples on two-foot centers, driven a minimum of six inches into the ground (except where crossing pavement or exposed limestone).
- ☐ Sand bags or large rock should be used as ballast inside the triangular dike section to stabilize the dike against the effects of high flows.
- ☐ Sufficient room for the operation of sediment removal equipment shall be provided between the dike and other obstructions in order to properly remove sediment.
- ☐ The ends of the dike shall be turned upgrade to prevent bypass of storm water.

## LIMITATIONS

Effects of ponding caused by the dikes should be evaluated for effects on adjacent areas.

Triangular sediment filter dikes are not effective for conditions where there are substantial concentrated flows or when they are not constructed along a contour line due to the potential for flow concentration and overtopping.

## MAINTENANCE REQUIREMENTS

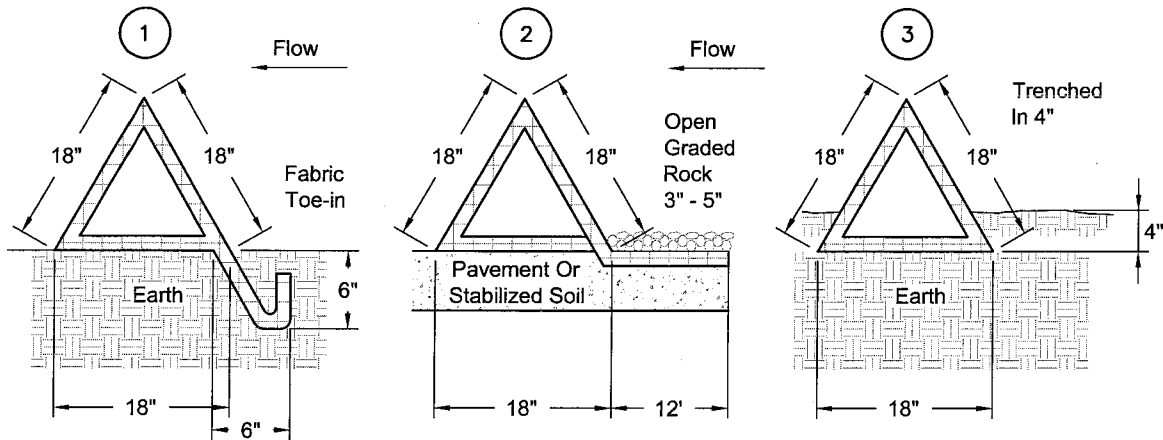
Triangular sediment filter dikes should be inspected regularly (at least as often as required by the TPDES Construction General Permit, Appendix A). Sediment should be removed when it reaches approximately 6 inches in depth. If the fabric becomes clogged, it should be cleaned or, if necessary, replaced. If structural deficiencies are found, the dike should be immediately repaired or replaced.

As with silt fence, integrity of the filter fabric is important to the effectiveness of the dike. Overlap between dike sections must be checked on a regular basis and repaired if deficient.

## SPECIFICATION

Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments, Section 201.8 Triangular Sediment Filter Dike.

# Triangular Sediment Filter Dike



Cross Section Of Installation Options

1. Toe-in 6" Min.
2. Fabric Skirt Weighted With Rock
3. Trenched In 4"

