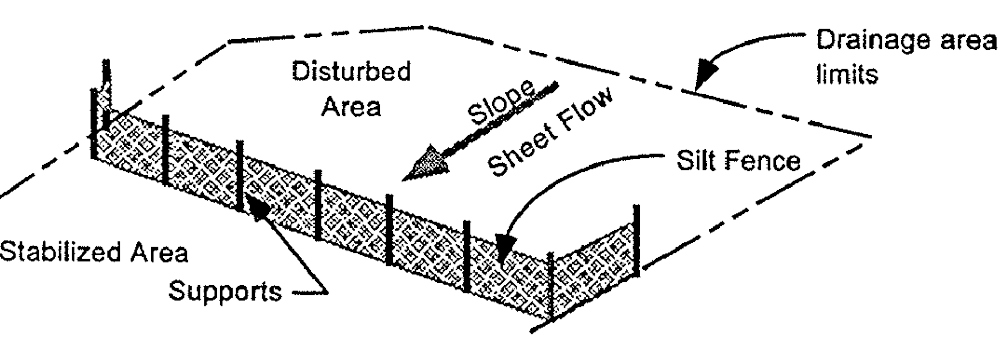


Silt Fence



Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices
Targeted Constituents
<input checked="" type="radio"/> Sediment <input type="radio"/> Nutrients <input type="radio"/> Toxic Materials <input type="radio"/> Oil & Grease <input checked="" type="radio"/> Floatable Materials <input type="radio"/> Other Construction Wastes
Implementation Requirements
<input checked="" type="radio"/> Capital Costs <input type="radio"/> Maintenance <input type="radio"/> Training <input type="radio"/> Suitability for Slopes >5%
Legend
<input checked="" type="radio"/> Significant Impact <input type="radio"/> Medium Impact <input type="radio"/> Low Impact <input type="radio"/> Unknown or Questionable Impact
BMP
4
City of Baton Rouge Parish of East Baton Rouge
Department of Public Works

DESCRIPTION
A silt fence consists of geotextile fabric supported by poultry netting or other backing stretched between either wooden or metal posts with the lower edge of the fabric securely embedded in the soil. The fence is typically located downstream of disturbed areas to intercept runoff in the form of sheet flow. Silt fence provides both filtration and time for sedimentation to reduce sediment and it reduces the velocity of the runoff. Properly designed silt fence is economical since it can be re-located during construction and re-used on other projects.

PRIMARY USE
Silt fence is normally used as perimeter control located downstream of disturbed areas. It is only feasible for non-concentrated, sheet flow conditions.

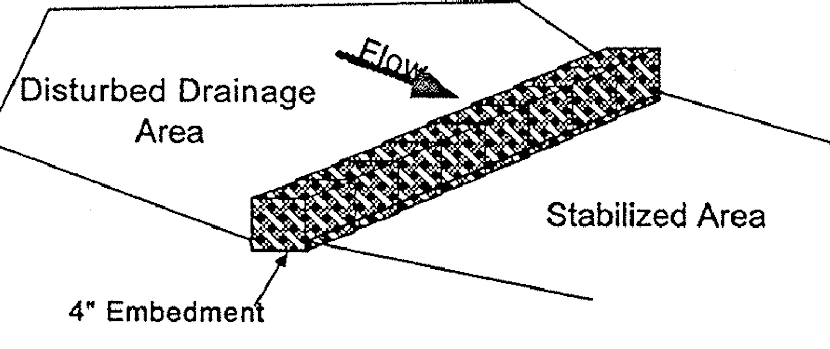
APPLICATIONS
Silt fence is an economical means to treat overland, non-concentrated flows for all types of projects. Silt fences are used as perimeter control devices for both site developments and linear (roadway) type projects. They are most effective with coarse to silty soil types. Due to the potential of clogging, silt fence should not be used with clay soil types.

In order to reduce the length of silt fence, it should be placed adjacent to the down slope side of the construction activities.

DESIGN CRITERIA

- Fences are to be constructed along a line of constant elevation (along a contour line) where possible.
- Maximum slope adjacent to the fence is 1:1.
- Maximum distance of flow to silt fence should be 200 feet or less.
- Maximum concentrated flow to silt fence shall be 1 CFS per 20 feet of fence.
- If 50% or less of soil, by weight, passes the U.S. Standard sieve No. 200, select the equivalent opening size (E.O.S.) to retain 85% of the soil.
- Maximum equivalent opening size shall be 70 (#70 sieve).

Straw Bale Dike



Applications
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Housekeeping Practices
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<input checked="" type="radio"/> Sediment <input type="radio"/> Nutrients <input type="radio"/> Toxic Materials <input type="radio"/> Oil & Grease <input checked="" type="radio"/> Floatable Materials <input type="radio"/> Other Construction Wastes
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Legend
<input checked="" type="radio"/> Significant Impact <input type="radio"/> Medium Impact <input type="radio"/> Low Impact <input type="radio"/> Unknown or Questionable Impact
BMP
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City of Baton Rouge Parish of East Baton Rouge
Department of Public Works

DESCRIPTION
A straw bale dike is a temporary barrier constructed of straw bales anchored with wood posts, that is used to intercept sediment-laden runoff generated by small disturbed areas. The straw bales can serve as both a filtration device and a dam/dike device to treat and redirect flow. Bales can consist of hay or straw in which straw is defined as best quality straw from wheat, oats or barley, free of weed and grass seed and hay is defined as straw which includes weed and grass seed.

PRIMARY USE
A straw bale dike is used to trap sediment-laden storm runoff from small drainage areas with relatively level grades, allowing for reduction of velocity thereby causing sediment to settle out.

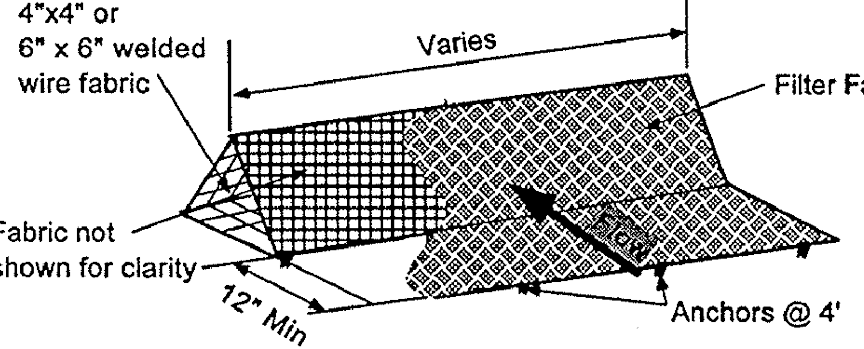
APPLICATIONS
Straw bale dikes are used to treat flow after it leaves a disturbed area on a relatively small (<1 acre) site. Due to the limited life of the straw bale, it is cost effective for small projects of a short duration. The limited weight and strength of the straw bale makes it suitable for small, flat (< 2 percent slope) contributing drainage areas. Due to the problems with straw degradation and the lack of uniform quality in straw bales, their use is discouraged except for small residential applications.

Straw bales can also be used as check dams (see Check Dam BMP S-7) for small watercourses such as interceptor swales and borrow ditches. Due to the problems in securely anchoring the bales, only small watercourses can effectively use straw bale check dams.

DESIGN CRITERIA

- Straw bale dikes are to be constructed along a line of constant elevation (along a contour line).
- Straw bale dikes are suitable only for treating sheet flows across grades of 2% or flatter.
- Maximum contributing drainage area shall be 0.25 acre per 100 linear feet of dike.
- Maximum distance of flow to dike should be 100 feet or less.

Triangular Sediment Filter Dike



Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices
Targeted Constituents
<input checked="" type="radio"/> Sediment <input type="radio"/> Nutrients <input type="radio"/> Toxic Materials <input type="radio"/> Oil & Grease <input checked="" type="radio"/> Floatable Materials <input type="radio"/> Other Construction Wastes
Implementation Requirements
<input checked="" type="radio"/> Capital Costs <input type="radio"/> Maintenance <input type="radio"/> Training <input type="radio"/> Suitability for Slopes >5%
Legend
<input checked="" type="radio"/> Significant Impact <input type="radio"/> Medium Impact <input type="radio"/> Low Impact <input type="radio"/> Unknown or Questionable Impact
BMP
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City of Baton Rouge Parish of East Baton Rouge
Department of Public Works

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, such as roadways, taxiways, ramps, etc., where silt fence or hay bale installation is Since they can be anchored without penetration, pavement damage can be minimized.

APPLICATIONS
Triangular dikes are used to provide perimeter control by detaining sediment on a disturbed site with drainage that would otherwise flow onto adjacent areas. 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 flowrate than silt fences.

DESIGN CRITERIA

- Dikes are to be installed along a line of constant elevation (along a contour line).
- Maximum slope perpendicular to the dike is 1:1.
- Maximum drainage flow to the dike shall be 11 CFS per 100 linear feet of dike.
- Maximum distance of flow to dike should be 200 feet or less.
- Maximum concentrated flow to dike shall be 1 CFS.

Silt Fence

- Minimum equivalent opening size shall be 100 (#100 sieve).
- If 85% or more of soil, by weight, passes the U.S. Standard sieve No. 200, silt fences shall not be used due to potential clogging.
- Sufficient room for the operation of sediment removal equipment shall be provided between the silt fence and other obstructions in order to properly maintain the fence.
- The ends of the fence shall be turned upstream to prevent bypass of stormwater.

LIMITATIONS
Minor ponding will likely occur at the upstream side of the silt fence resulting in minor localized flooding.

Fences which are constructed in swales or low areas subject to concentrated flow may be overtopped resulting in failure of the filter fence. Silt fences subject to areas of concentrated flow (waterways with flows > 1 cfs) are not acceptable.

Silt fence can interfere with construction operations, therefore planning of access routes onto the site is critical.

Silt fence can fail structurally under heavy storm flows, creating maintenance problems and reducing the effectiveness of the system.

MAINTENANCE REQUIREMENTS
Inspections should be made on a weekly basis, especially after large storm events. If the fabric becomes clogged, it should be cleaned or if necessary, replaced.

Sediment should be removed when it reaches approximately one-half the height of the fence.

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Department of Public Works

Straw Bale Dike

- Dimensions for individual bales shall be 30 inches minimum length, 18 inches minimum height, 24 inches minimum width and shall weigh no less than 50 pounds when dry.
- Each straw bale shall be placed into an excavated trench having a depth of 4 inches and a width just wide enough to accommodate the bales themselves.
- Straw bales shall be installed in such a way that there is no space between bales.
- Individual bales shall be held in place by at least two wood stakes driven a minimum distance of 6 inches below the 4" excavated trench to undisturbed ground, with the first stake driven at an angle toward the previously installed bale.
- The ends of the dike shall be turned upgrade to prevent bypass of stormwater.
- Place bales on sides such that bindings are not buried.

LIMITATIONS
Due to a short effective life caused by biological decomposition, straw bales must be replaced after a period of no more than 3 months. During the wet and warm seasons, however, they must be replaced more frequently as is determined by periodic inspections for structural integrity.

Straw bale dikes are not recommended for use with concentrated flows of any kind except for small check flows in which they can serve as a check dam.

The effectiveness of straw bales in reducing sediment is very limited. Improperly maintained, straw bales can have a negative impact on the water quality of the runoff.

MAINTENANCE REQUIREMENTS
Straw bales shall be replaced if there are signs of degradation such as straw located downstream from the bales, structural deficiencies due to rotting straw in the bale or other signs of deterioration. Sediment should be removed from behind the bales when it reaches a depth of approximately 6 inches.

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Department of Public Works

Triangular Sediment Filter Dike

- If 50% or less of soil, by weight, passes the U.S. Standard sieve No. 200, select the equivalent opening size (E.O.S.) to retain 85% of the soil.
- Maximum equivalent opening size shall be 70 (#70 sieve).
- Minimum equivalent opening size shall be 100 (#100 sieve).
- 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.
- 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 stormwater.

LIMITATIONS
Ponding will likely occur directly adjacent to the dike which may possibly cause flooding.

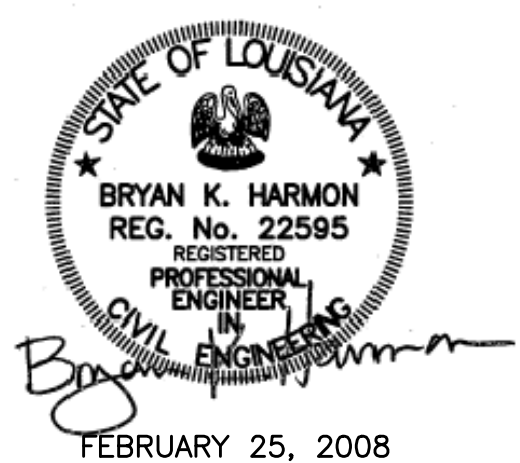
Triangular sediment filter dikes are not effective for conditions which include substantial concentrated flows or when they are not constructed along a contour line due to the potential for flow concentration and overtopping.

MAINTENANCE REQUIREMENTS
Inspections should be made on a weekly basis, especially after large (> 0.5 inches) storm events. If the fabric becomes clogged, it should be cleaned or if necessary, replaced.

Sediment should be removed when it reaches approximately 6 inches in depth. In addition, inspections should be made on a regular basis to check the structural integrity of the dike. 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.

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Department of Public Works



STANDARD PLAN NO. 903-01	DATED FEBRUARY 25, 2008	SHEET NO. 2 OF 11
STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES		
ENGINEERING DIVISION DEPARTMENT OF PUBLIC WORKS CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE		
DESIGNED G. CHENG	DRAWN G. VANNICE	CHECKED G. CHENG
APPROVED B. HARMON		

DATE	DESCRIPTION	BY
	REVISIONS	