**DESCRIPTION:**

A temporary containment control constructed of compacted soil.

APPLICATION:

- ◆ Construct around waste and materials storage area.
- ◆ Construct around staging and maintenance areas.
- ◆ Construct around vehicle parking and servicing areas.

INSTALLATION/APPLICATION CRITERIA:

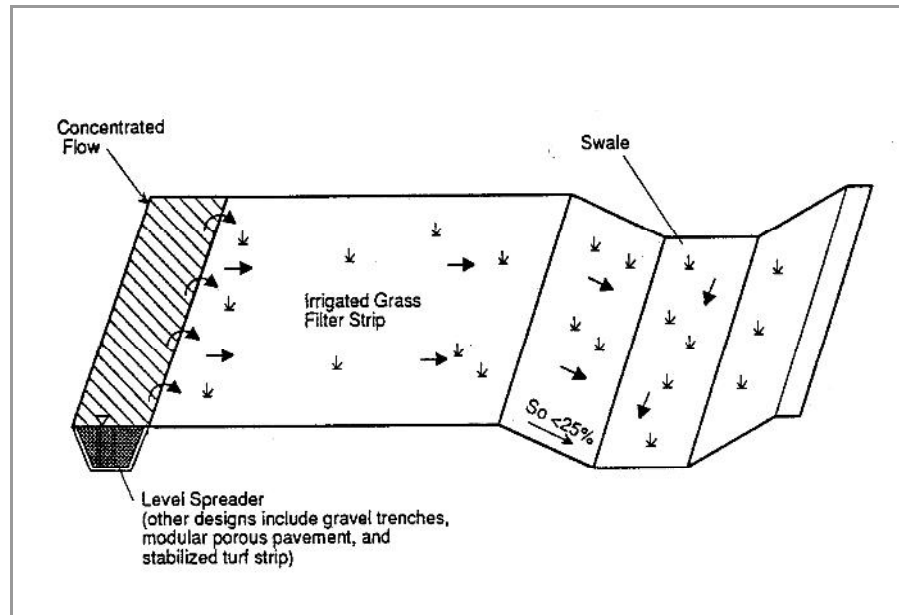
- ◆ Construct an earthen berm down hill of the area to be controlled. The berm should surround fueling facilities and maintenance areas on three sides to provide containment.
- ◆ Berm needs to be a minimum of 1 foot tall by 1 foot wide and be compacted by earth moving equipment.

LIMITATIONS:

- ◆ Not effective on steep slopes.
- ◆ Limits access to controlled area.
- ◆ Personnel need to quickly respond to spills with remedial actions.

MAINTENANCE:

- ◆ Observe daily for any non-stormwater discharge.
- ◆ Look for runoff bypassing ends of berms or undercutting berms.
- ◆ Repair or replace damaged areas of the berm and remove accumulated sediment.
- ◆ Recompact soil around berm as necessary to prevent piping.

**DESCRIPTION:**

Filter strips are 20-foot-wide strips of natural or planted vegetation around a construction site. They are designed to cause deposition of sediments within the vegetation layer.

APPLICATIONS:

- ◆ Suited for areas where the soils are well drained or moderately well drained.
- ◆ Areas where the bedrock and the water table are well below the surface.

INSTALLATION/APPLICATION CRITERIA:

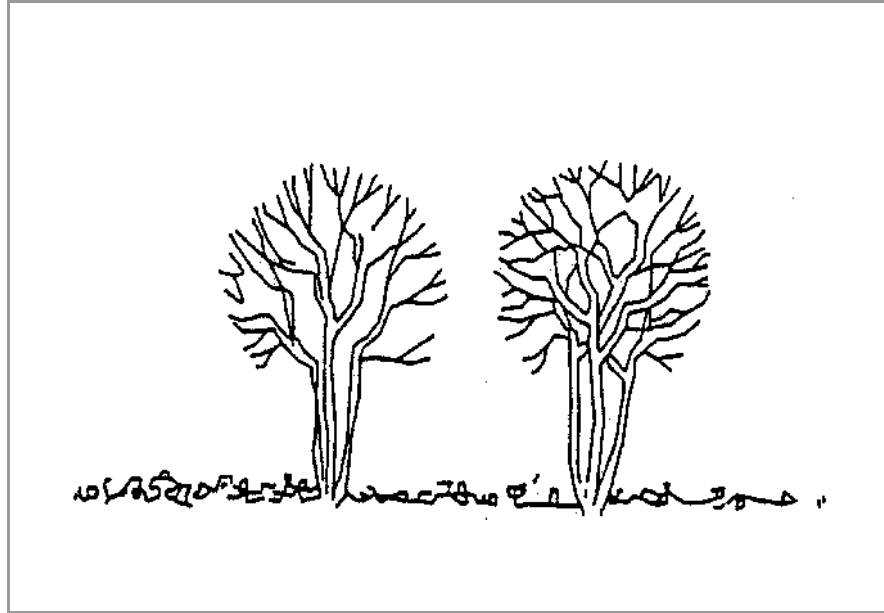
- ◆ Make sure the vegetative cover is dense enough to protect underlying soil while causing sediment to settle.
- ◆ Filter strip must be approximately 20 feet wide to function well.
- ◆ The length should be approximately 50 to 75 feet. Where slopes become steeper the length of the strip must be increased.

LIMITATIONS:

- ◆ Only applicable in areas where vegetation is previously established or where sod is added.
- ◆ Vegetated filter strips will not function well on steep slopes, in hilly areas, or in highly paved areas.
- ◆ Sites with slopes of 15 percent or more may not be suitable for filtering storm water flows.

MAINTENANCE:

- ◆ Check for channels and repair.
- ◆ Provide rock aprons to aid in slowing flow if necessary.
- ◆ Maintain vegetation at optimal height and thickness.

**DESCRIPTION:**

Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs and/or grasses that serve as erosion controls.

APPLICATIONS:

This technique is applicable to all types of sites. Areas where preserving vegetation can be particularly beneficial are floodplains, wetlands, stream banks, steep slopes, and other areas where erosion controls would be difficult to establish, install, or maintain.

INSTALLATION/APPLICATION CRITERIA:

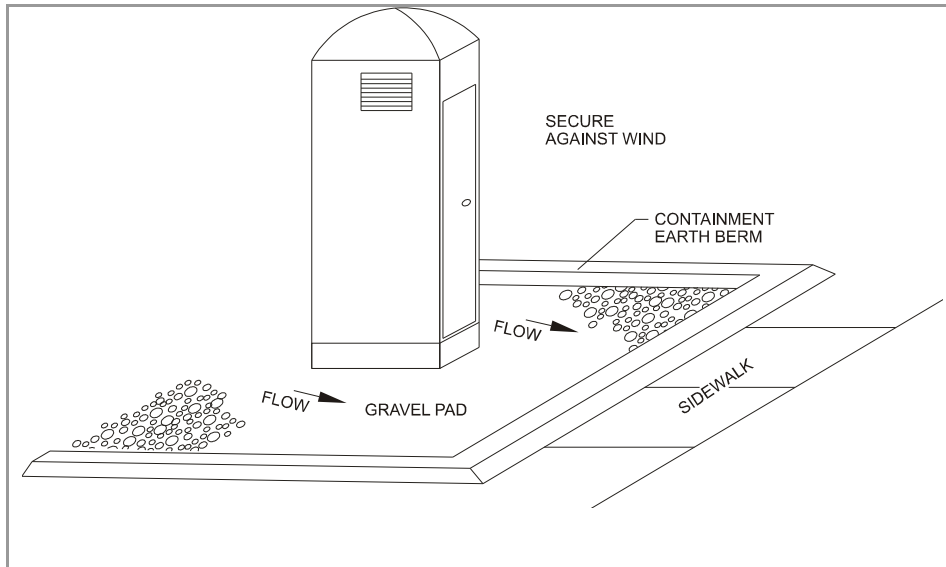
- ◆ Clearly mark, flag or fence vegetation or areas where vegetation should be preserved.
- ◆ Prepare landscaping plans which include as much existing vegetation as possible and state proper care during and after construction.
- ◆ Define and protect with berms, fencing, signs, etc. a setback area from vegetation to be preserved.
- ◆ Propose landscaping plans which do not include plant species that compete with the existing vegetation.
- ◆ Do not locate construction traffic routes, spoil piles, etc. where significant adverse impact on existing vegetation may occur.

LIMITATIONS:

- ◆ Requires forward planning by the owner/developer, contractor and design staff.
- ◆ For sites with diverse topography, it is often difficult and expensive to save existing trees while grading the site satisfactorily for the planned development.
- ◆ May not be cost effective with high land costs.

MAINTENANCE:

- ◆ Inspection and maintenance requirements for protection of vegetation are low.
- ◆ Maintenance of native trees or vegetation should conform to landscape plan specifications.

**DESCRIPTION:**

Temporary on-site sanitary facilities for construction personnel.

APPLICATION:

All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

INSTALLATION/APPLICATION CRITERIA:

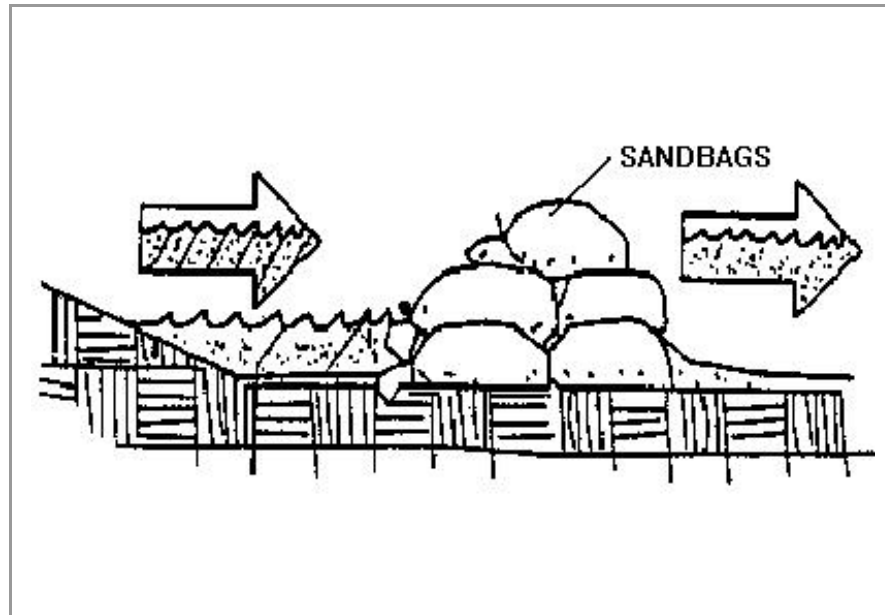
- ◆ Locate portable toilets in convenient locations throughout the site.
- ◆ Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- ◆ Construct earth berm perimeter (6" tall by 6" wide), control for spill/protection leak.

LIMITATIONS:

- ◆ No limitations.

MAINTENANCE:

- ◆ Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- ◆ Regular waste collection should be arranged with licensed service.
- ◆ All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

**DESCRIPTION:**

Stacking sandbags along a level contour creates a barrier which detains sediment-laden water, ponding water upstream of the barrier and promoting sedimentation.

APPLICATION:

- ◆ Along the perimeter of the site.
- ◆ May be used in drainage areas up to 5 acres.
- ◆ Along streams and channels
- ◆ Across swales with small catchments.
- ◆ Around temporary spoil areas.
- ◆ Below the toe of a cleared slope.

INSTALLATION/APPLICATION CRITERIA:

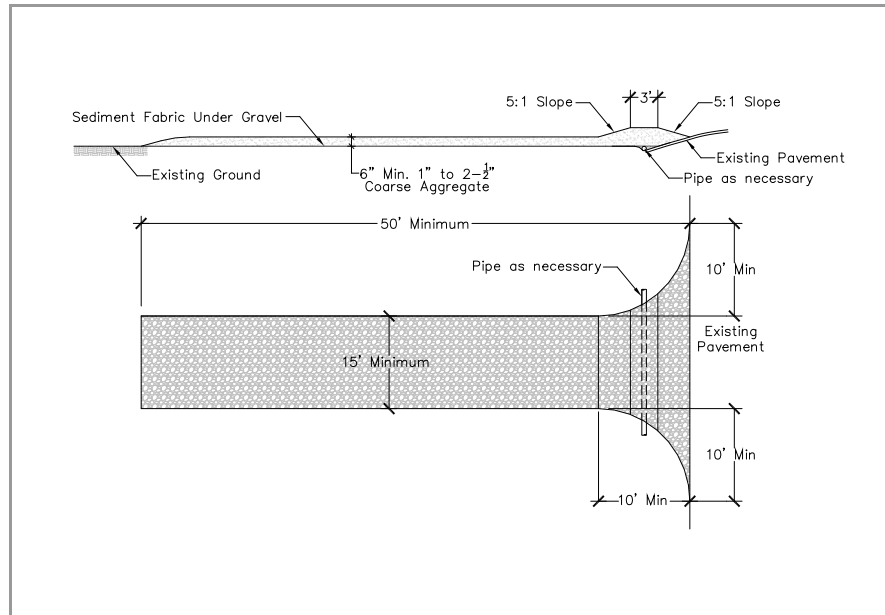
- ◆ Install along a level contour.
- ◆ Base of sandbag barrier should be at least 48 inches wide.
- ◆ Height of sandbag barrier should be at least 18 inches high.
- ◆ 4 inch PVC pipe may be installed between the top layer of sand bags to drain large flood flows.
- ◆ Provide area behind barrier for runoff to pond and sediment to settle.
- ◆ Place below the toe of a slope.

LIMITATIONS:

- ◆ Sandbags are more expensive than other barriers, but also more durable.
- ◆ Burlap should not be used.

MAINTENANCE:

- ◆ Inspect after each rain.
- ◆ Reshape or replace damaged sandbags immediately.
- ◆ Replace sediment when it reaches six inches in depth.

**DESCRIPTION:**

A stabilized pad of crushed stone located where construction traffic enters or leaves the site from or to paved surface.

APPLICATION:

At any point of ingress or egress at a construction site where adjacent traveled way is paved. Generally applies to sites over 2 acres unless special conditions exist.

INSTALLATION/APPLICATION CRITERIA:

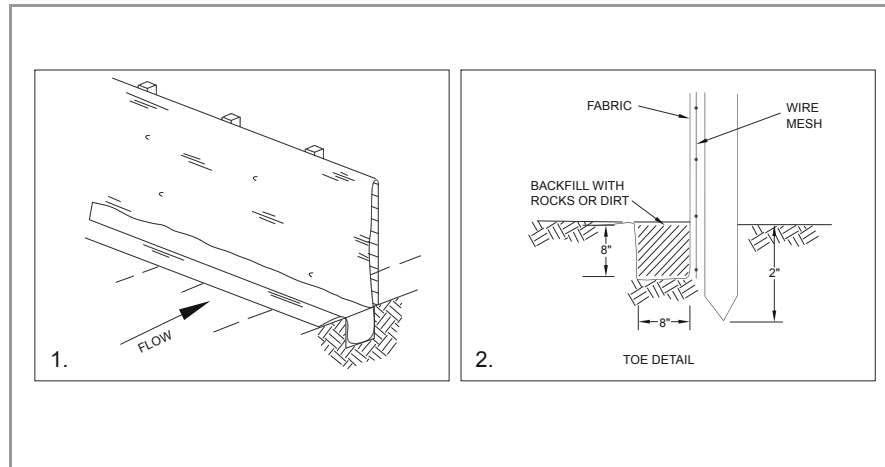
- ◆ Clear and grub area and grade to provide maximum slope of 2%.
- ◆ Compact subgrade and place filter fabric if desired (recommended for entrances to remain for more than 3 months).
- ◆ Place coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 8 inches.

LIMITATIONS:

- ◆ Requires periodic top dressing with additional stones.
- ◆ Should be used in conjunction with street sweeping on adjacent public right-of-way.

MAINTENANCE:

- ◆ Inspect daily for loss of gravel or sediment buildup.
- ◆ Inspect adjacent roadway for sediment deposit and clean by sweeping or shoveling.
- ◆ Repair entrance and replace gravel as required to maintain control in good working condition.
- ◆ Expand stabilized area as required to accommodate traffic and prevent erosion at driveways.



DESCRIPTION:

A temporary sediment barrier consisting of entrenched filter fabric stretched across and secured to supporting posts.

Application:

- ◆ Perimeter control: place barrier at down-gradient limits of disturbance
- ◆ Sediment barrier: place barrier at toe of slope or soil stockpile
- ◆ Protection of existing waterways: place barrier at top of stream bank
- ◆ Inlet protection: place fence surrounding catchbasins

INSTALLATION/APPLICATION CRITERIA:

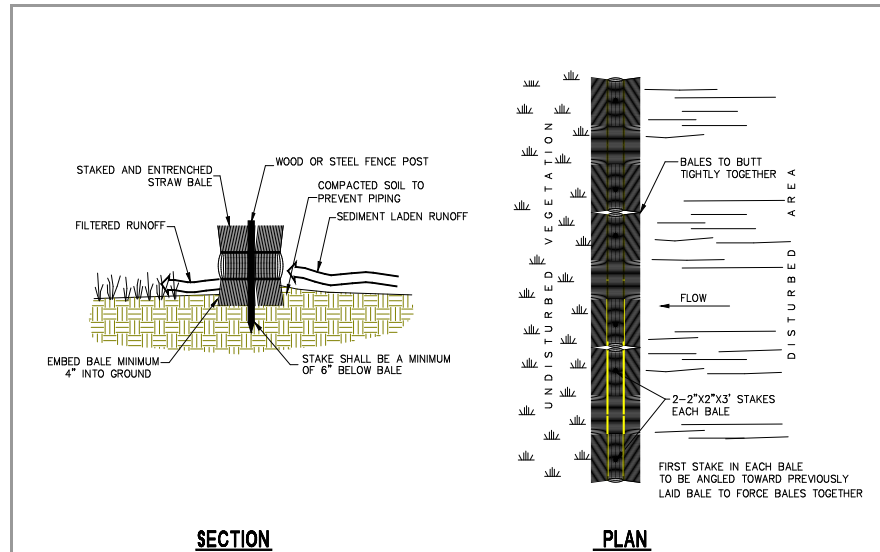
- ◆ Place posts 6 feet apart on center along contour (or use preassembled unit) and drive 2 feet minimum into ground. Excavate an anchor trench immediately up-gradient of posts.
- ◆ Secure wire mesh (14 gage min. with 6-inch openings) to upslope side of posts. Attach with heavy duty 1 inch long wire staples, tie wires or hog rings.
- ◆ Cut fabric to required width, unroll along length of barrier and drape over barrier. Secure fabric to mesh with twine, staples, or similar, with trailing edge extending into anchor trench.
- ◆ Backfill trench over filter fabric to anchor.

LIMITATIONS:

- ◆ Recommended maximum drainage area of 0.5 acre per 100 feet of fence
- ◆ Recommended maximum up-gradient slope length of 150 feet
- ◆ Recommended maximum uphill grade of 2:1 (50%)
- ◆ Recommended maximum flow rate of 0.5 cfs
- ◆ Ponding should not be allowed behind fence

MAINTENANCE:

- ◆ Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- ◆ Look for runoff bypassing ends of barriers or undercutting barriers.
- ◆ Repair or replace damaged areas of the barrier and remove accumulated sediment.
- ◆ Reanchor fence as necessary to prevent shortcutting.
- ◆ Remove accumulated sediment when it reaches 1/2 the height of the fence.



DESCRIPTION:

Temporary sediment barrier consisting of a row of entrenched and anchored straw bales.

APPLICATIONS:

- ◆ Perimeter control: place barrier at down-gradient limits of disturbance.
- ◆ Sediment barrier: place barrier at toe of slope or soil stockpile.
- ◆ Protection of existing waterways: place barrier at top of stream bank.
- ◆ Inlet protection.

INSTALLATION/APPLICATION CRITERIA:

- ◆ Excavate a 4-inch minimum deep trench along contour line, i.e. parallel to slope, removing all grass and other material that may allow underflow.
- ◆ Place bales in trench with ends tightly abutting, fill any gaps by wedging loose straw into openings.
- ◆ Anchor each bale with 2 stakes driven flush with the top of the bale.
- ◆ Backfill around bale and compact to prevent piping, backfill on uphill side to be built up 4-inches above ground at the barrier.

LIMITATIONS:

- ◆ Recommended maximum area of 0.5 acre per 100 feet of barrier
- ◆ Recommended maximum up-gradient slope length of 150 feet
- ◆ Recommended maximum uphill grade of 2:1 (50%)

MAINTENANCE:

- ◆ Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- ◆ Look for runoff bypassing ends of barriers or undercutting barriers.
- ◆ Repair or replace damaged areas of the barrier and remove accumulated sediment.
- ◆ Realign bales as necessary to provide continuous barrier and fill gaps.
- ◆ Recompress soil around barrier as necessary to prevent piping.