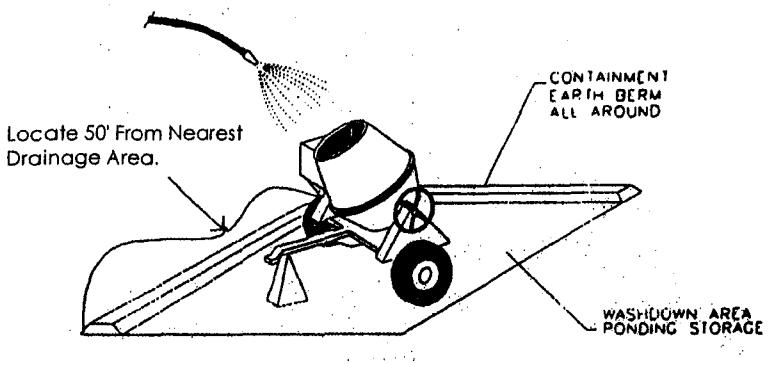
BMP: Concrete Waste Management

CWM



DESCRIPTION:
Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

APPLICATIONS:
This technique is applicable to all types of sites.

INSTALLATION/APPLICATION CRITERIA:
- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete or cement on-site.
- Perform washout of concrete trucks off-site or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area. (See Earth Berm Barrier information sheet.)
- Train employees and subcontractors in proper concrete waste management.

LIMITATIONS:
- Off-site washout of concrete wastes may not always be possible.

MAINTENANCE:
- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

OBJECTIVES

- ☐ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

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TARGETED POLLUTANTS

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☒ Other Waste

IMPLEMENTATION REQUIREMENTS

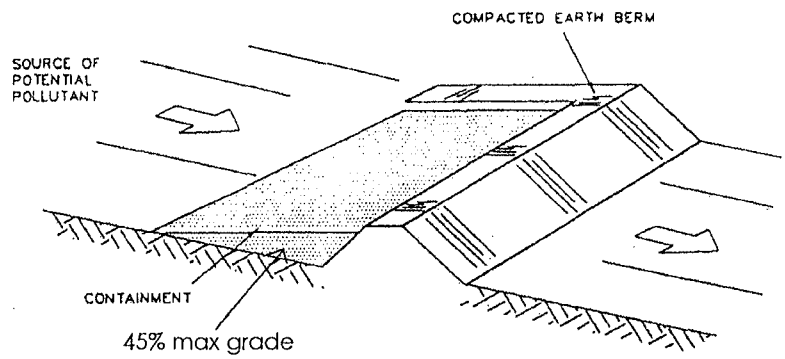
- ☐ Capital Costs
- ☐ O&M Costs
- ☒ Maintenance
- ☒ Training

■ High ☒ Medium ☐ Low

Materials Adoped from Salt Lake County Engineering Division Guidance Document

BMP: Earth Berm Barrier

EB



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.

OBJECTIVES

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- ☐ Oil & Grease
- ■ Floatable Materials
- ☐ Other Construction Waste

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- ☒ Medium Impact
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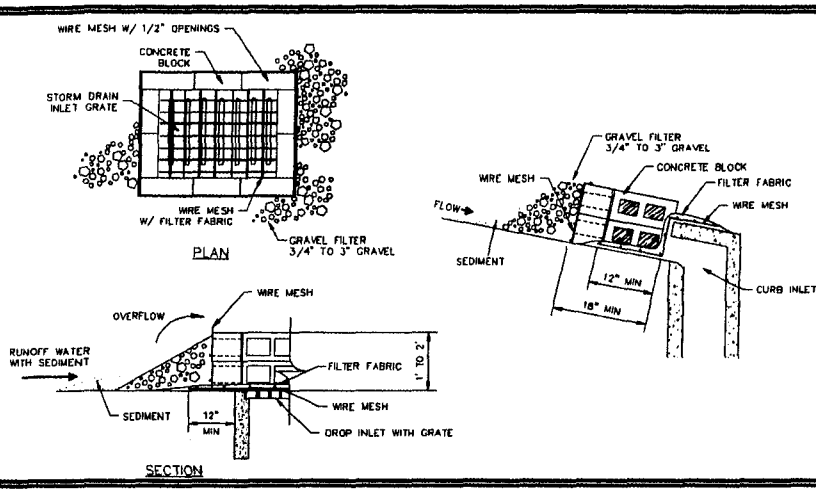
IMPLEMENTATION REQUIREMENTS

- ☒ Capital Costs
- ☐ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

BMP:Inlet Protection - Concrete Block

IP



OBJECTIVES

- ☐ Housekeeping Practices
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- ☒ Control Internal Erosion

DESCRIPTION:

Concrete block and gravel filter placed over inlet to storm drain system.

APPLICATION:

Construct at inlets in paved or unpaved areas where upgradient area is to be disturbed by construction activities.

INSTALLATION/APPLICATION CRITERIA:

- Place wire mesh (with ½ inch openings) over the inlet grate extending one foot past the grate in all directions.
- Place concrete blocks around the inlet with openings facing outward. Stack blocks to minimum height of 12-inches and maximum height of 24-inches.
- Place wire mesh around outside of blocks.
- Place gravel (3/4" to 3") around blocks.

LIMITATIONS:

- Recommended for maximum drainage area of one acre.
- Excess flows may bypass the inlet requiring down gradient controls.
- Ponding will occur at inlet.

MAINTENANCE:

- Inspect inlet protection after every large storm event and at a minimum of once monthly.
- Remove sediment accumulated when it reaches 4-inches in depth.
- Replace filter fabric and clean or replace gravel if clogging is apparent.

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- ☐ Oil & Grease
- ■ Floatable Materials
- ☐ Other Waste

IMPLEMENTATION REQUIREMENTS

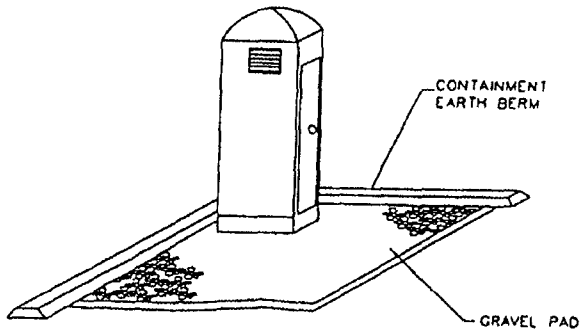
- ☒ Capital Costs
- ☐ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document

BMP: Portable Toilets

PT



1'x1'

OBJECTIVES

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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 (See Earth Berm Barrier Information Sheet), 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.

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IMPLEMENTATION REQUIREMENTS

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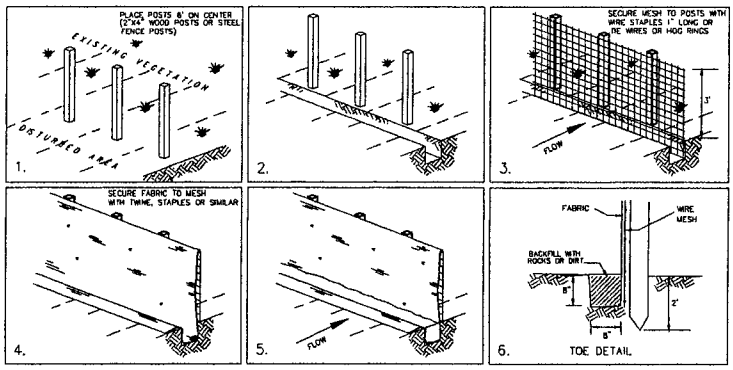
BMP: Silt Fence

SF



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

APPLICATION:
- Perimeter control: place barrier at downgradient 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 upgradient 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 upgradient 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.
- Re-anchor fence as necessary to prevent shortcutting.
- Remove accumulated sediment when it reaches ½ the height of the fence.

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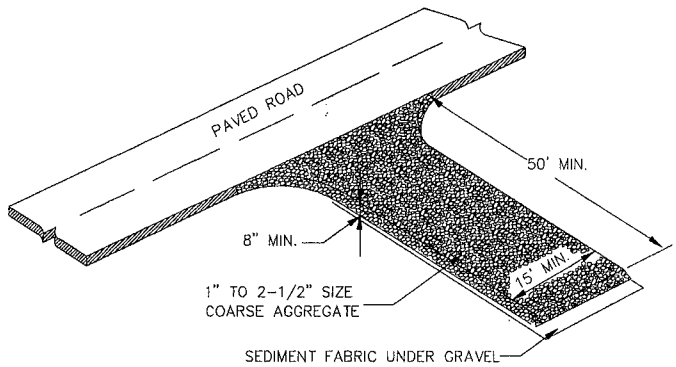
BMP: Stabilized Construction Entrance

SCE



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

APPLICATIONS:
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 accomodate traffic and prevent erosion at driveways.

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