

Backfilling area previously excavated or trenched. BMP 01

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Stabilize backfill material when not actively handling.

X <u> </u>	01-01	Water backfill material to maintain moisture or to form crust.
_ <u> </u>	01-02	Apply and maintain a chemical stabilizer to backfill material to form crust.
_ <u> </u>	01-03	Cover (natural or synthetic) or enclose backfill material when not actively handling.

Stabilize backfill material during handling.

X <u> </u>	01-04	Empty loader bucket slowly and minimize drop height from loader bucket.
X <u> </u>	01-05	Dedicate water truck or large hose to backfilling equipment and apply water as needed.
_ <u> </u>	01-06	Mix moist soil with dry soil until the optimum moisture is reached.
_ <u> </u>	01-07	Apply and mix water into the backfill material until optimum moisture is reached.
_ <u> </u>	01-08	Apply and mix water and chemical solution into the backfill material until optimum moisture is reached.

Stabilize soil at completion of backfilling activity.

X <u> </u>	01-09	Apply water and maintain disturbed soils in a stable condition.
_ <u> </u>	01-10	Apply and maintain a chemical stabilizer on disturbed soils to form a crust.

Stabilize material while using pipe padder equipment.

_ <u> </u>	01-11	Mix moist soil with dry soil until the optimum moisture is reached.
X <u> </u>	01-12	Dedicate water truck or large hose to equipment and apply water as needed.
_ <u> </u>	01-13	Not Applicable

BMP 04

Clearing forms, foundations, slab clearing and cleaning of forms, foundations and slabs prior to pouring concrete.

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION.

<input checked="" type="checkbox"/> 04-01	Use water spray to clear forms, foundations and slabs.
<input checked="" type="checkbox"/> 04-02	Use sweeping and water spray to clear forms, foundations and slabs.
<input type="checkbox"/> 04-03	Use industrial vacuum to clear forms, foundations and slabs prior to the use of high pressure air to blow soil and debris.
<input type="checkbox"/> 04-04	Use industrial vacuum to clear forms, foundations and slabs.

Cut and fill soils for site grade preparation. **BMP 06**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Stabilize surface soils where support equipment and vehicles will operate.

06-01

Pre-water and maintain surface soils in a stabilized condition.

06-02

Apply and maintain a chemical stabilizer to surface soils.

Pre-water soils.

06-03

Dig a test hole to depth of cut or equipment penetration to determine if soils are moist at depth. Continue to pre-water if not moist to depth of cut.

Stabilize soil during cut activities.

06-04

Apply water to depth of cut prior to subsequent cuts.

Stabilize soil after cut and fill activities.

06-05

Water disturbed soils to maintain moisture.

06-06

Apply and maintain a chemical stabilizer on disturbed soils to form crust following fill and compaction.

06-07

Apply cover (natural or synthetic).

Disturbed soil throughout project including between structures. THIS
ACTIVITY MUST BE SELECTED FOR ALL PROJECTS.

BMP 09

**GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN
R307-309-5**

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Limit disturbance of soils where possible.

09-01

Limit disturbance of soils with the use of fencing, barriers, barricades, and/or
wind barriers.

09-02

Limit vehicle mileage and reduce speed.

Stabilize and maintain stability of all disturbed soil throughout construction site.

09-03

Apply water to stabilize disturbed soils. Soil moisture must be maintained such
that soils can be worked without generating fugitive dust.

09-04

Apply and maintain a chemical stabilizer.

09-05

Use wind breaks.

09-06

Apply cover (natural or synthetic).

BMP 10
Disturbed land - long term stabilization and erosion control of large tracts of disturbed land that will not have continuing activity for more than 30 days.

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Prevent access to limit soil disturbance.

10-01

Prevent access by fencing, ditches, vegetation, berms or other suitable barrier.

Stabilize soil.

10-02

Apply and maintain a chemical stabilizer on disturbed soils.

10-03

Stabilize disturbed soil with vegetation.

10-04

Pave or apply surface rock.

10-05

Use wind breaks.

10-06

Apply water and maintain soil moisture sufficient to avoid generating fugitive dust.

Hauling materials.

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Limit visible dust opacity from vehicular operations.

11-01

Apply and maintain water/chemical suppressant to operational areas and haul routes.

11-02

Limit vehicle mileage and speed.

Stabilize materials during transport on site.

11-03

Use tarps or other suitable enclosures on haul trucks.

11-04

Apply water prior to transport.

Clean wheels and undercarriage of haul trucks prior to leaving construction site.

11-05

Clean wheels.

11-06

Sweep or water haul road.

Sawing/cutting material, concrete, asphalt, block or pipe.

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION.

Limit visible emissions.

13-01

13-02

Use water control to dust.

Use a vacuum to collect dust.

Staging areas, equipment storage, vehicle parking lots, and material storage areas. **BMP 15**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Limit visible dust opacity from vehicular operations.

15-01

Limit vehicle mileage and speed.

15-02

Apply water on all vehicle traffic areas in the staging areas and unpaved access routes.

Stabilize staging area soils during use.

15-03

Pre-water and maintain surface soils in a stabilized condition.

15-04

Apply and maintain a chemical stabilizer to surface soils.

Stabilize staging area soils at project completion.

15-05

Apply a chemical stabilizer.

15-06

Apply screened or washed aggregate.

15-07

Use wind breaks.

15-08

Pave.

15-09

Completed project will cover staging area with buildings, paving, and/or landscaping.

15-10

Apply water to form adequate crust and prevent access.

Stockpiles materials (storage), other soils, rock or debris, for future use or export.

BMP 16

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Stabilize surface soils where support equipment and vehicles will operate.

- X 16-01 Pre-water and maintain surface soils in a stabilized condition.
- 16-02 Apply and maintain a chemical stabilizer on surface soils.
- 16-03 Pave area.

Stabilize stockpile materials during handling.

- X 16-04 Remove material from the downwind side of the stockpile, when safe to do so.
- X 16-05 Reduce height.
- 16-06 Create wind screen

Stabilize stockpiles after handling.

- X 16-07 Water stockpiles to form a crust immediately.
- 16-08 Apply and maintain a chemical stabilizer to all outer surfaces of the stockpiles.
- 16-09 Provide and maintain wind barriers on 3 sides of the pile.
- 16-10 Apply a cover (natural or synthetic)
- 16-11 Wind screen.
- 16-12 Avoid steep sides to prevent material sloughing.
- X 16-13 Reduce height.

Tailings piles, ponds and erosion control.

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION.

Stabilize piles and ponds.

<input checked="" type="checkbox"/> 17-01	Pre-water and maintain surface soils in a stabilized condition.
<input type="checkbox"/> 17-02	Apply and maintain a chemical stabilizer on surface soils
<input type="checkbox"/> 17-03	Install cover (natural or synthetic).
<input type="checkbox"/> 17-04	Apply wind break.
<input type="checkbox"/> 17-05	Avoid steep sides of faces
<input type="checkbox"/> 17-06	Minimizing the area of disturbed tailings.
<input checked="" type="checkbox"/> 17-07	Restricting the speed of vehicles in and around the tailings operation.

Trackout Prevention and Cleanup of mud, silt and soil tracked out onto paved roads.

BMP 18

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Prevent dust from trackout.

<input checked="" type="checkbox"/> 18-01	Clean trackout at the end of the work shift from paved surfaces to maintain dust control
<input checked="" type="checkbox"/> 18-02	Maintain dust control during working hours and clean trackout from paved surfaces at the end of the work shift/day.
<input checked="" type="checkbox"/> 18-03	Install gravel pad(s), clean, well-graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by 3 inches deep, and, at minimum, 50' or the length of the longest haul truck, whichever is greater. Re-screen, wash or apply additional rock in gravel pad to maintain effectiveness.
<input type="checkbox"/> 18-04	Install wheel shakers. Clean wheel shakers on a regular basis to maintain effectiveness.
<input type="checkbox"/> 18-05	Install wheel washers. Maintain wheel washers on a regular basis to maintain effectiveness.
<input type="checkbox"/> 18-06	Motorized vehicles will only operate on paved surfaces.
<input type="checkbox"/> 18-07	Install cattle guard before paved road entrance.

All exiting traffic must be routed over selected trackout control device(s).

<input checked="" type="checkbox"/> 18-08	Clearly establish and enforce traffic patterns to route traffic over selected trackout control device(s).
<input checked="" type="checkbox"/> 18-09	Limit site accessibility to routes with trackout control devices in place by installing effective barriers on unprotected routes.

BMP 19

Traffic - unpaved routes and parking, construction related traffic on unpaved interior and/or access roads and unpaved employee/worker parking areas.

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION.

Stabilize surface soils where support equipment and vehicles will operate.

<input checked="" type="checkbox"/> 19-01	Limit vehicle mileage and speeds.
<input checked="" type="checkbox"/> 19-02	Apply and maintain water on surface soils.
<input type="checkbox"/> 19-03	Apply and maintain chemical stabilizers on surface soils.
<input type="checkbox"/> 19-04	Apply and maintain gravel on surface soils.
<input type="checkbox"/> 19-05	Supplement chemical stabilizers, water or aggregate applications as necessary.
<input type="checkbox"/> 19-06	Apply recycled asphalt (RAP) to surface soils.

Trenching with track or wheel mounted excavator, shovel, backhoe or trencher.

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Presoak soils prior to trenching activities.

X 20-01

Pre-water surface.

Stabilize surface soils where trenching equipment, support equipment and vehicles will operate.

X 20-02

Pre-water and maintain surface soils in a stabilized condition.

20-03

Apply and maintain a chemical stabilizer to surface soils.

X 20-04

Limit mileage and speed.

Stabilize soils after trenching.

X 20-05

Apply and maintain water on excavated soil.

20-06

Apply and maintain chemical stabilizer on excavated soil.

Truck loading with materials including construction and demolition debris, rock and soil. **BMP 21**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION.

<input checked="" type="checkbox"/> <u>21-01</u>	Pre-water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate.
<input type="checkbox"/> <u>21-02</u>	Apply and maintain a chemical stabilizer on surface soils where loaders, support equipment and vehicles will operate.
<input checked="" type="checkbox"/> <u>21-03</u>	Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping.

Soil Report



United States
Department of
Agriculture



Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Davis-Weber Area, Utah** Pristine Gardens



December 29, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

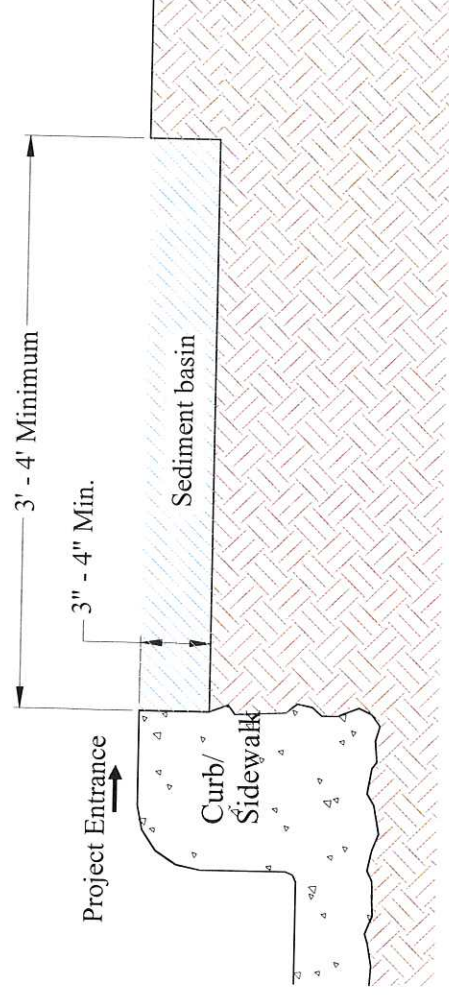
The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Cut Back Curb/Sidewalk



Description

A temporary sediment trap formed by excavation behind the curb, sidewalk, or roadway. Various uses could be applied. V ditches, depressed areas (area between sidewalk and curb, behind sidewalk, or behind the roadway), and other sediment type traps preventing sediment from entering impervious surface areas.

Application

The purpose is to intercept sediment laden runoff from the lot or commercial pad during construction and retain sediment on the lot.

Conditions Where the Practice Applies

A cutback curb is installed when discharge from the lot or commercial pad runs over the curb and traditional silt fence, wattles, existing vegetation, or erosion control blanket is not used. It can also be installed at the entrance to the lot when access is needed.

Design/Installation

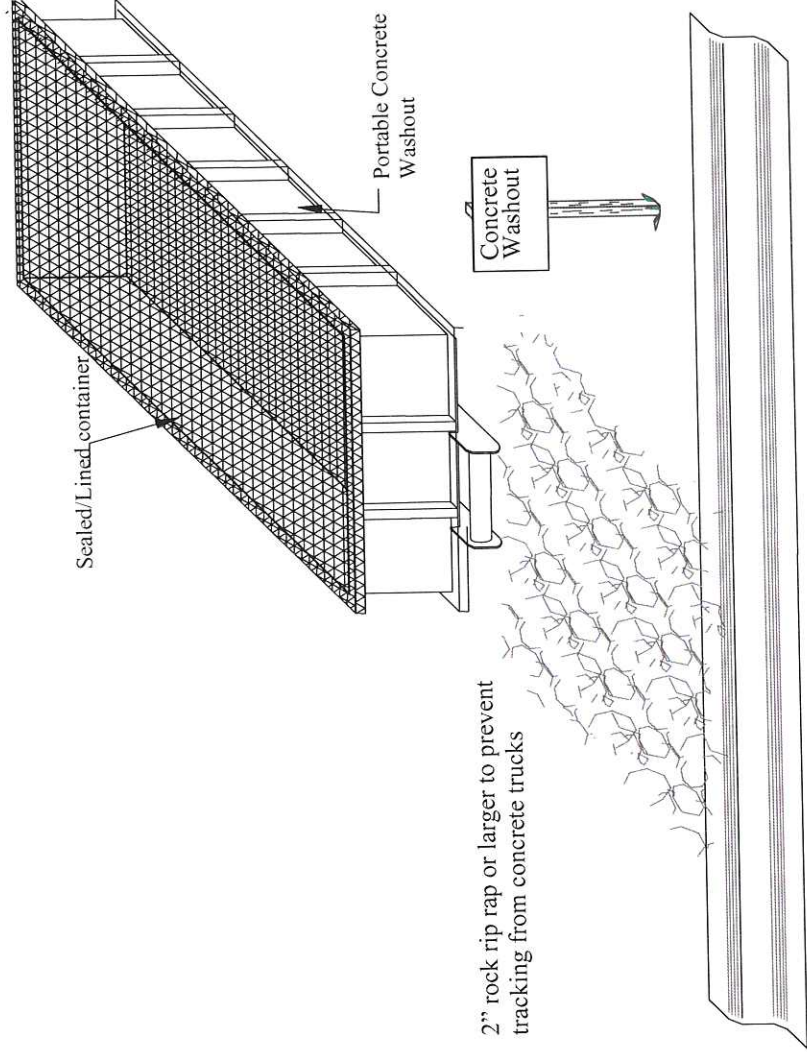
Cut back soil from behind curb 3" - 4" deep to form a temporary sediment trap. The depth required may be increased if more sediment storage is needed. Installing the sidewalk will form a two-stage sediment trap that will be more effective.

Sidewalks need to be kept clear of all sediment and debris.

Maintenance

The trap must be cleaned regularly as site conditions or rain events cause sediment deposition in the trap. Allow sediment laden water to infiltrate before cleaning to prevent overflow into the street.

Portable Concrete Washout Container



Description

A temporary portable self-contained and water-tight bin that contains concrete washout, material, and wastewater with a poly liner to facilitate emptying and cleaning. Many types of bins exist that are designed to meet this purpose. (ie: EcoPan, Metro Waste, Concrete Washout Systems)

Application

Allows operators to wash out concrete trucks, pumps, and equipment on-site and facilitate off-site recycling of concrete material and washout waters.

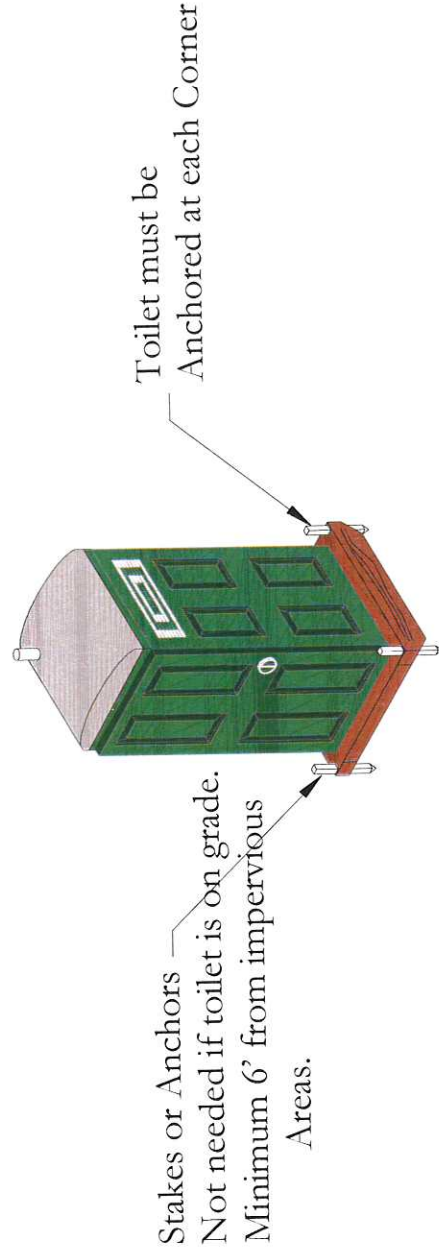
Conditions Where Practice Applies

New construction projects where concrete is used as a construction material or demolition projects where concrete dust and debris result from demolition activities.

Design / Installation

The container must be manufactured of steel, portable, and watertight. Clean out when 3/4 full.

Sanitary Waste Management



Description

Contained sanitary and septic waste management prevent the discharge of pollutants to storm water from sanitary and septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

Application

Sanitary septic waste management practices are suitable for use at all construction sites that use temporary or portable sanitary and septic waste systems.

Installation

Sanitary or septic wastes should be treated or disposed of in accordance with state and local requirements by reputable, licensed sanitary and septic waste haulers. If using an onsite disposal system, such as a septic system, local health agency requirements must be followed.

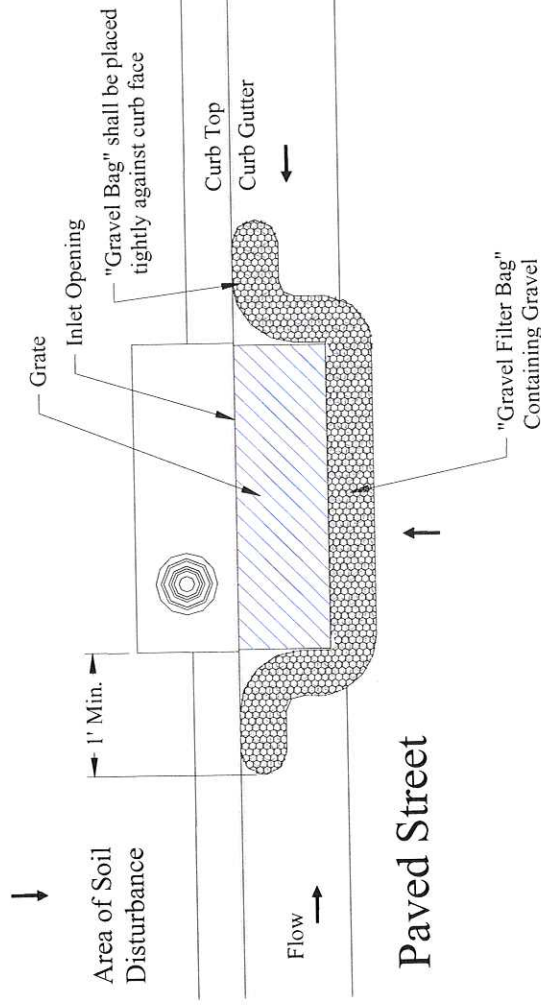
Procedures

- Sanitary facilities must be provided on the site in close proximity to areas where people are working.
- Locate portable toilets a minimum of 20 feet away from storm drain inlets, conveyance channels, or surface waters. If unable to meet 20-foot distance requirement, provide containment for portable toilets.
- Temporary sanitary facilities should be located away from drainage facilities, watercourses and from traffic circulation.
- Untreated raw wastewater should never be discharged or buried.
- Temporary septic systems should treat wastes to appropriate levels before discharging.
- Temporary sanitary facilities that discharge to the sanitary sewer system should be properly connected to avoid illicit discharges.
- Sanitary and septic facilities should be maintained in good working order by a licensed service.

- Regular waste collection by a licensed hauler should be arranged before facilities overflow.
- Portable toilets must be secured to the ground by stakes or other suitable means to prevent them from turning over during high winds or by accident.

Gravel Bag

Curb Storm Drain Inlet Protection



Description

The inlet protection consists of a continuous gravel bag filter constructed around a storm drain curb inlet. The bag is made of high UV mono-filament weave for strength and durability and is heat sealed to prevent rupture. Many varying types of bags exist, contact local supplier for details.

Application

Storm drain inlet protection is used to filter sediment laden runoff before it enters the storm drain system.

Conditions Where the Practice Applies

Inlets should be protected with this BMP when storm water from construction areas having earth disturbing activities has the potential to reach existing curb inlets after streets have been paved but lots have not been stabilized.

Design/Installation

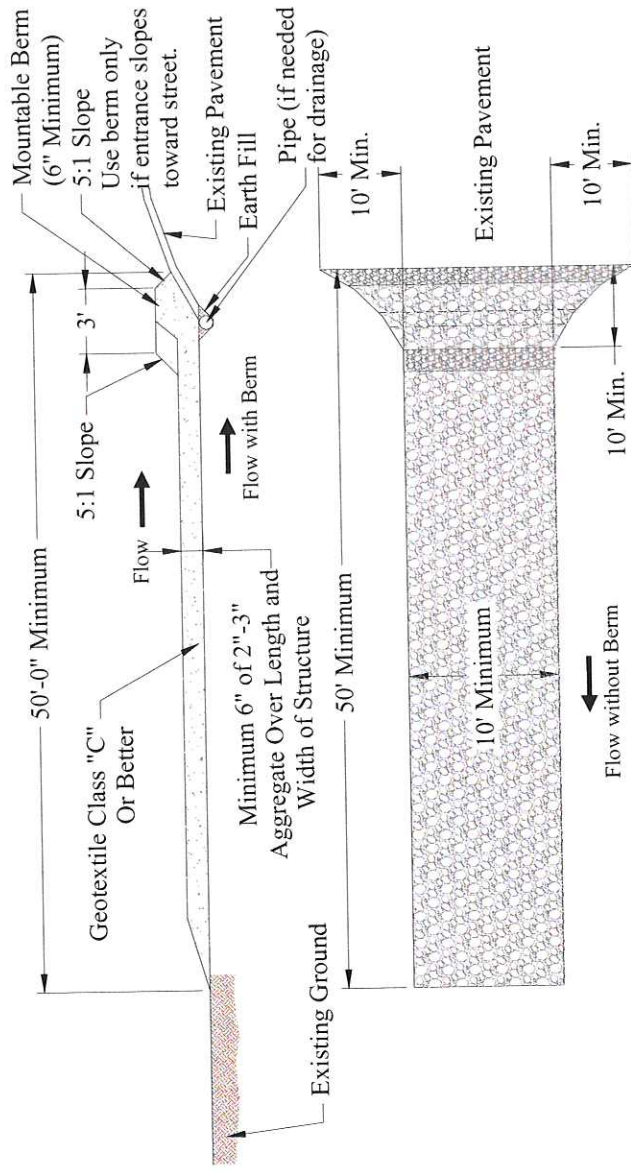
Pour $\frac{3}{4}$ " maximum graded gravel into the bags on site. It is not necessary to fill the bags completely. Overfilling could damage the bag and limit the ability to reuse the bags on future sites. The filter shall be effective in retaining the desired soil particle size. Follow manufacturer's recommendations with respect to the bag requirements. Bags with gravel may be 4", 6", or 8" in diameter depending on the job requirements. The standard bags

are 10" X 42". If bags are butted together, they must form a tight seal to prevent sediment from bypassing the filter. It may be necessary to special order longer lengths and cut to the desired length. Twist galvanized wire at least 1" from the open end to retain the gravel in the bag. If grates exist in front of the curb opening, the bag must be outside of the grate in order to prevent unfiltered water from entering the grate. Do not place the filter inside the curb opening. A special product is used for inside the opening applications. The "snake" must be out from the opening far enough to allow overflow during intense rain events.

Maintenance

Bags can be reused provided they are clean and undamaged. Discard damaged bag material in a solid waste facility. The operator shall inspect inlet protection as required by applicable regulations and make repairs or clean out as necessary. More frequent inspections and repairs shall be required during winter conditions due to freeze/thaw problems. Sediment accumulated upstream of the inlet shall be removed when the sediment depth upstream of the device has reached ½ the bag height. Inlet protection is to remain in place until the upstream disturbed area is stabilized and grass cover is approved, unless the local entity approves earlier removal of inlet protection in streets.

Stabilized Construction Exit



Description

A stabilized layer of aggregate that is underlain with Geotextile Material. Stabilized exits are located at any point where traffic exits a construction site.

Application

The purpose of the stabilized construction entrance is to reduce tracking of sediment onto streets or public rights-of-way and provide a stable area for entrance or exit from the construction site.

Conditions Where the Practice Applies

1. Stabilized construction entrances shall be located at points of construction ingress and egress.
2. Modified stabilized construction Exit should apply to individual homes/building lots.
2. Stabilized construction entrances should not be used on existing pavement.

Design/Installation

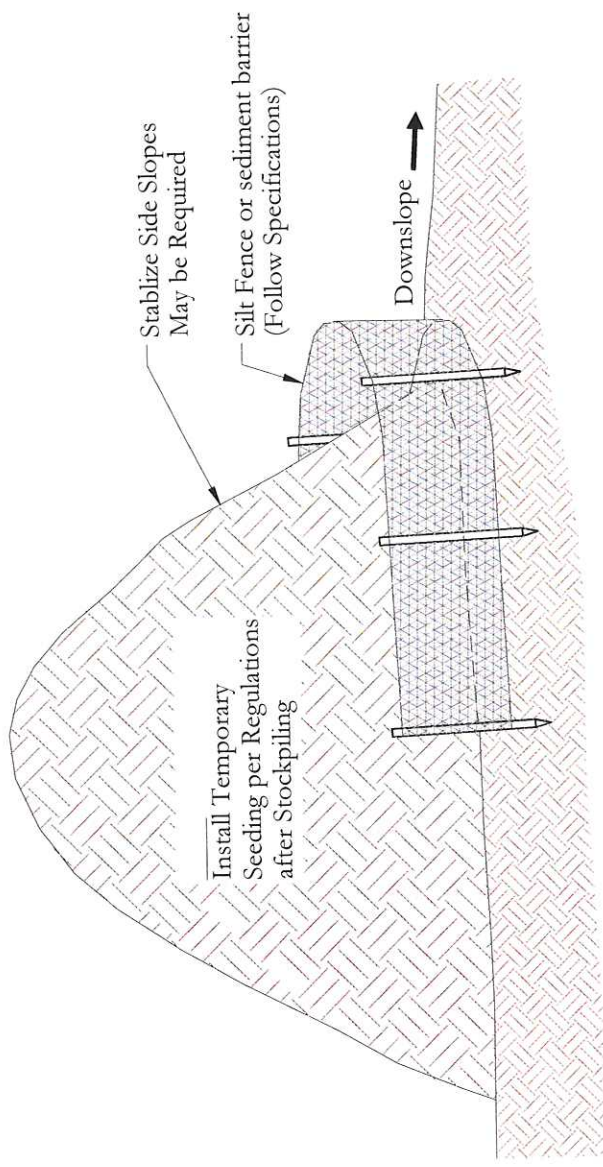
1. Length - Minimum of 50'-0" (30'-0" for single residence lot/commercial pad or as space will allow).
2. Width - Minimum of 10'-0", should be flared at the existing road to provide a turning radius.
3. Geotextile Material shall be placed over the existing ground prior to placing stone. This does not apply to stabilized exit points for individual building lots.

4. Stone-crushed aggregate 2"-3" (See Standards for Geotextile and Rock) (3/4 inch graded or bigger may be used on individual building lot applications). Recycled concrete equivalent also may be used. The rock should be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - All the surface water flowing to or diverted toward construction entrances shall be piped under the entrance to maintain positive drainage. Pipe installed under the construction entrance shall be protected with a mountable berm. The pipe shall be sized according to the drainage, with the minimum diameter being 6".
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or exits a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance. (Check local requirements)

Maintenance

If stone compacts, raking is required. Add more stone if needed. Clean up fugitive sediment. Wash wheels into approved trap if necessary. Daily maintenance is required.

Soil Stockpile Protection



Description

Soil Stockpile Protection is the use of a temporary BMP such as vegetation, silt fence, wattle or a sediment barrier placed on the down slope side of a soil stockpile to prevent sediment from escaping the stockpile.

Purpose

The purpose is to trap or filter sediment that is carried in the storm water leaving the stockpile during rain events. Note: some local ms4's do not allow stockpiling.

Conditions where the Practice Applies

Provide stockpile protection whenever a stockpile is created for temporary storage of topsoil or excess soil during mass grading. The topsoil will be spread over the site after final grading and before final stabilization with vegetation. The topsoil fertility is usually greater when compared to subsurface layers of soil and therefore is a better media for establishing vegetation. Construction sites requiring the import of soils from another site also require temporary stockpile areas. In some cases an excess of soil exists from excavation on the site and the excess will eventually need to be exported from the site or placed in another location onsite. In some cases excavated soil may be unsatisfactory for use on the site. Draper City-no stockpiles allowed.

Design/Installation

If vegetation is used, a temporary silt fence or other suitable BMP should be placed immediately around the stockpile. The temporary BMP can be removed after an adequate cover of vegetation is established. Avoid placing stockpiles on paved surfaces. Special considerations are required when selecting BMPs for stockpiles on paved

surfaces. The slopes of the stockpile should be flat enough to insure slope stability and prevent sloughing. The location of stockpile areas should always be addressed and shown in the Storm Water Pollution Prevention Plan.

Maintenance

Once vegetation is established, it should be maintained until the stockpile is removed. Check BMPs periodically and after rain events for stability and soil loss. Repair or replace damaged BMPs immediately or replace the BMP if it is ineffective.

**DESCRIPTION:**

Employee training, like equipment maintenance, is a method by which to implement BMPs. Employee training should be used in conjunction with all other BMPs as part of the facility's SWPPP.

The specific employee training aspects of each of the source controls are highlighted in the individual information sheets. The focus of this information sheet is more general, and includes the overall objectives and approach for assuring employee training in stormwater pollution prevention. Accordingly, the organization of this information sheet differs somewhat from the other information sheets in this chapter.

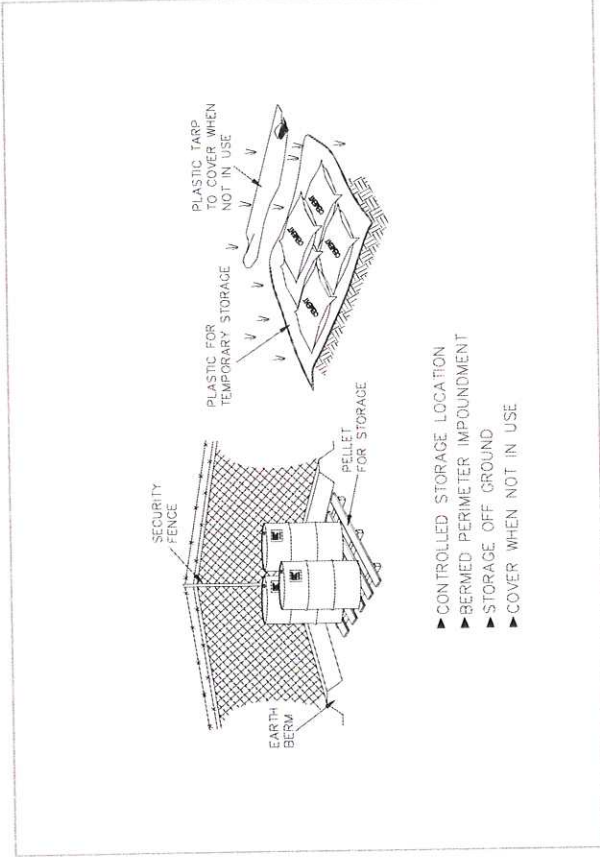
OBJECTIVES:

Employee training should be based on four objectives:

- ◆ Promote a clear identification and understanding of the problem, including activities with the potential to pollute stormwater;
- ◆ Identify solutions (BMPs);
- ◆ Promote employee ownership of the problems and the solutions; and
- ◆ Integrate employee feedback into training and BMP implementation.

APPROACH:

- ◆ Integrate training regarding stormwater quality management with existing training programs that may be required for your business by other regulations.
- ◆ Businesses that are not regulated in Federal, State, or local regulations, may use the information in this handbook to develop a training program to reduce their potential to pollute stormwater.
- ◆ Employee training is a vital component of many of the individual source control BMPs included in this manual.



DESCRIPTION:
Controlled storage of on-site materials.

APPLICATION:

- ◆ Storage of hazardous, toxic, and all chemical substances.
- ◆ Any construction site with outside storage of materials.

INSTALLATION/APPLICATION CRITERIA:

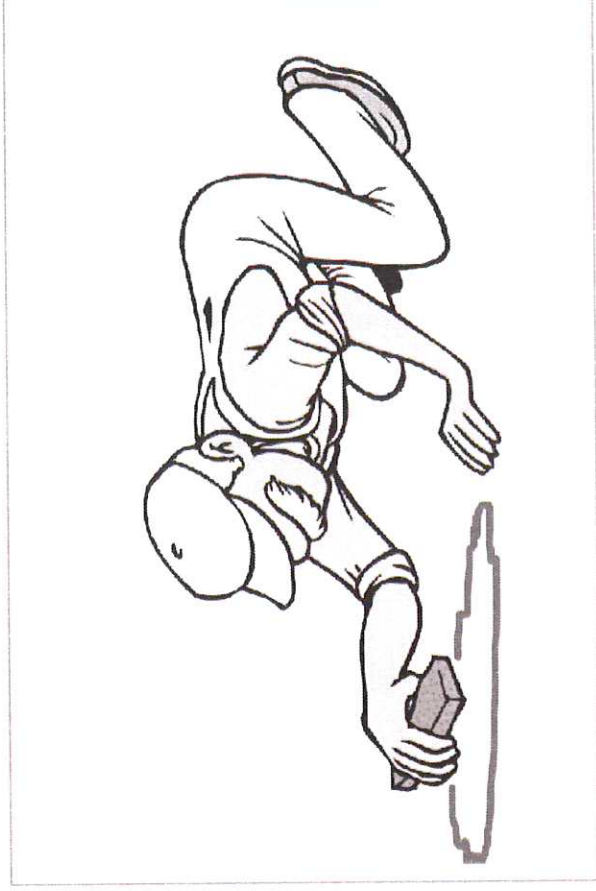
- ◆ Designate a secured area with limited access as the storage location. Ensure no waterways or drainage paths are nearby.
- ◆ Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around storage location for impoundment in the case of spills.
- ◆ Ensure all on-site personnel utilize designated storage area. Do not store excessive amounts of material that will not be utilized on site.
- ◆ For active use of materials away from the storage area ensure materials are not set directly on the ground and are covered when not in use. Protect storm drainage during use.

LIMITATIONS:

- ◆ Does not prevent contamination due to mishandling of products.
- ◆ Spill Prevention and Response Plan still required.
- ◆ Only effective if materials are actively stored in controlled location.

MAINTENANCE:

- ◆ Inspect daily and repair any damage to perimeter impoundment or security fencing.
- ◆ Check materials are being correctly stored (i.e. standing upright, in labeled containers, tightly capped) and that no materials are being stored away from the designated location.

**DESCRIPTION:**

Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

APPLICATION:

All sites

GENERAL:

- ◆ Store controlled materials within a storage area.
- ◆ Educate personnel on prevention and clean-up techniques.
- ◆ Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- ◆ Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

METHODS:

- ◆ Clean-up spills/leaks immediately and remediate cause.
- ◆ Use as little water as possible. **NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIAL.**
- ◆ Use rags or absorbent material for clean-up. Excavate contaminated soils. Dispose of clean-up material and soil as hazardous waste.
- ◆ Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- ◆ Contact the Salt Lake County Health Department (313-6700) for any spill of reportable quantity.

**DESCRIPTION:**

Reduce the discharges of pollutants to stormwater from street surfaces by conducting street cleaning on a regular basis.

APPROACH:

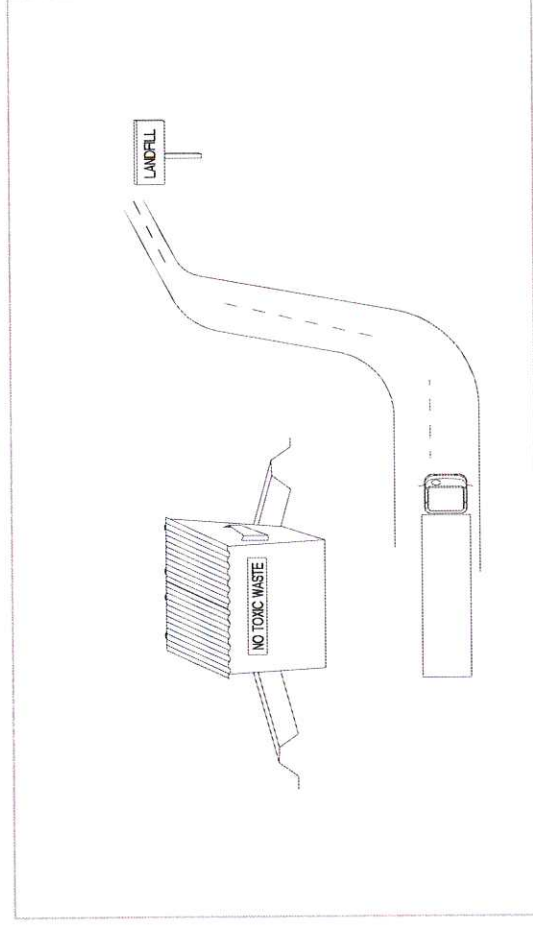
- ◆ Prioritize cleaning to use the most sophisticated sweepers, at the highest frequency, and in areas with the highest pollutant loading.
- ◆ Restrict street parking prior to and during sweeping.
- ◆ Increase sweeping frequency just before the rainy season.
- ◆ Proper maintenance and operation of sweepers greatly increase their efficiency.
- ◆ Keep accurate operation logs to track programs.
- ◆ Sweepers effective at removing smaller particles (less than 10 microns) may generate dust that would lead to concerns over worker and public safety.
- ◆ Equipment selection can be key for this particular BMP. There are two types used, the mechanical broom sweepers (more effective at picking up large debris and cleaning wet streets), and the vacuum sweepers (more effective at removing fine particles and associated heavy metals). Many communities find it useful to have a compliment of both types in their fleet.

LIMITATIONS:

- ◆ Conventional sweepers are not able to remove oil and grease.
- ◆ Mechanical sweepers are not effective at removing finer sediments.
- ◆ Effectiveness may also be limited by street conditions, traffic congestion, presence of construction projects, climatic conditions and condition of curbs.

MAINTENANCE:

- ◆ Replace worn parts as necessary.
- ◆ Install main and gutter brooms of the appropriate weight.



DESCRIPTION:
Controlled storage and disposal of solid waste generated by construction activities.

APPLICATION:
All construction sites.

INSTALLATION:

- ◆ Designate one or several waste collection areas with easy access for construction vehicles and personnel. Ensure no waterways or storm drainage inlets are located near the waste collection areas.
- ◆ Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around collection area for impoundment in the case of spills and to trap any windblown trash.
- ◆ Use watertight containers with covers to remain closed when not in use. Provide separate containers for different waste types where appropriate and label clearly.
- ◆ Ensure all on site personnel are aware of and utilize designated waste collection area properly and for intended use only (e.g. all toxic, hazardous, or recyclable materials shall be properly disposed of separately from general construction waste).
- ◆ Arrange for periodic pickup, transfer and disposal of collected waste at an authorized disposal location. Include regular Porta-potty service in waste management activities.

LIMITATIONS:

- ◆ On-site personnel are responsible for correct disposal of waste.

MAINTENANCE:

- ◆ Discuss waste management procedures at progress meetings.
- ◆ Collect site trash daily and deposit in covered containers at designated collection areas.
- ◆ Check containers for leakage or inadequate covers and replace as needed.
- ◆ Randomly check disposed materials for any unauthorized waste (e.g. toxic materials).
- ◆ During daily site inspections check that waste is not being incorrectly disposed of on-site (e.g. burial, burning, surface discharge, discharge to storm drain).