

Section 3 Erosion and Sediment Control BMPs

3.1 Erosion Control

[Erosion control](#) is any [source control](#) practice that protects the soil surface and prevents soil particles from being detached by rainfall, flowing water, or wind. Erosion control consists of using project scheduling and planning to reduce soil or [vegetation](#) disturbance (particularly during the rainy season), preventing or reducing erosion potential by diverting or controlling drainage, as well as preparing and stabilizing disturbed soil areas. Erosion control [BMPs](#) that can be used to fulfill these objectives are shown in Table 3-1. It should be noted that several additional BMPs, such as Check Dams (SE-4) and Fiber Rolls (SE-5) can be used for erosion control, by reducing slope length or steepness, as well as for [sediment control](#) (i.e., perimeter control or retention of [sediment](#)). These BMPs have been included in this handbook as sediment control BMPs and are shown in Table 3-2.

All [inactive](#) soil disturbed areas on the project site, and most [active areas](#) prior to the onset of rain, must be protected from erosion. Soil disturbed areas may include relatively flat areas as well as slopes. Typically, steep slopes and large exposed areas require the most robust erosion controls; flatter slopes and smaller areas still require protection, but less costly materials may be appropriate for these areas, allowing savings to be directed to the more robust BMPs for steep slopes and large exposed areas. Additional guidance on the selection of temporary slope stabilization methods is provided in Appendix F. To be effective, erosion control BMPs for slopes at disturbed areas must be protected from concentrated flows.

Some erosion control BMPs can be used effectively to temporarily prevent erosion by concentrated flows. These BMPs, used alone or in combination, prevent erosion by intercepting, diverting, conveying, and discharging concentrated flows in a manner that prevents soil detachment and transport. Temporary concentrated flow conveyance controls may be required to direct run-on around or through the project in a non-erodible fashion. Temporary concentrated flow conveyance controls include the following BMPs:

Table 3-1 Erosion Control BMPs

BMP#	BMP Name
EC-1	Scheduling
EC-2	Preservation of Existing Vegetation
EC-3	Hydraulic Mulch ¹
EC-4	Hydroseeding ¹
EC-5	Soil Binders ¹
EC-6	Straw Mulch ¹
EC-7	Geotextiles & Mats ¹
EC-8	Wood Mulching
EC-9	Earth Dikes and Drainage Swales
EC-10	Velocity Dissipation Devices
EC-11	Slope Drains
EC-12	Streambank Stabilization
EC-13	Reserved ²
EC-14	Compost Blankets ³
EC-15	Soil Preparation / Roughening ³
EC-16	Non-Vegetative Stabilization ³
1) BMP fact sheet updated in 2009	
2) BMP fact sheet removed in 2009 (formerly PAM)	
3) New BMP fact sheet added in 2009	

- EC-9, Earth Dikes and Drainage Swales
- EC-10, Velocity Dissipation Devices
- EC-11, Slope Drains

3.2 Sediment Control

Sediment control is any practice that traps soil particles after they have been detached and moved by rain, flowing water, or wind.

Sediment control measures are usually passive systems that rely on filtering or settling the particles out of the water or wind that is transporting them.

Sediment control practices include the BMPs listed in Table 3-2.

Sediment control BMPs include those practices that intercept and slow or detain the flow of [stormwater](#) to allow sediment to settle and be trapped. Sediment control practices can consist of installing linear sediment barriers (such as [silt fences](#), [gravel bag berms](#), or [fiber rolls](#)); and constructing [check dams](#), a [sediment trap](#) or [sediment basin](#) to retain sediment on site. Linear sediment barriers are typically placed below the toe of exposed and erodible slopes, down-slope of exposed soil areas, around soil stockpiles, and at other appropriate locations along the site perimeter. As mentioned in Section 3.1, some BMPs are dual-purpose, such as Fiber Rolls and Check Dams. By reducing effective slope length or steepness, these BMPs reduce erosion as well as promote [sedimentation](#).

Sediment control BMPs are most effective when used in conjunction with erosion control BMPs. The combination of erosion control and sediment control is the most effective means to prevent sediment from leaving the project site and potentially entering [storm drains](#) or [receiving waters](#). The [General Permit](#) requires that sediment controls be established and maintained at all sites and requires the combined use with erosion controls to protect disturbed areas at most sites.

Table 3-2 Temporary Sediment Control BMPs

BMP#	BMP Name
SE-1	Silt Fence ¹
SE-2	Sediment Basin ¹
SE-3	Sediment Trap
SE-4	Check Dam ¹
SE-5	Fiber Rolls ¹
SE-6	Gravel Bag Berm ¹
SE-7	Street Sweeping and Vacuuming
SE-8	Sandbag Barrier ¹
SE-9	Straw Bale Barrier
SE-10	Storm Drain Inlet Protection ¹
SE-11	Active Treatment Systems ¹
SE-12	Temporary Silt Dike ²
SE-13	Compost Socks and Berms ²
SE-14	Biofilter Bags ²
1) BMP fact sheet updated in 2009	
2) New BMP fact sheet added in 2009	

3.3 Wind Erosion Control

[Wind erosion control](#) consists of applying water or other dust palliatives to prevent or minimize dust nuisance. Wind erosion control BMPs are shown in Table 3-3.

Other BMPs that control wind erosion are EC-1 through EC-8, and EC-14 through EC-16, shown in Section 3.1 of this handbook. Be advised that some of the dust palliatives/chemical dust suppression agents may have potential water quality impacts. A sampling and analysis protocol to test for stormwater contamination from exposure to such compounds is required in the SWPPP.

Table 3-3 Wind Erosion Control BMPs

BMP#	BMP Name
WE-1	Wind Erosion Control ¹
1) BMP fact Sheet updated in 2009	

3.4 Tracking Control BMPs

[Tracking control](#) consists of preventing or reducing the tracking of sediment off-site by vehicles leaving the construction area. Tracking control BMPs are shown in Table 3-4. Street Sweeping and Vacuuming (SE-7) is also a tracking control practice. All sites must have a stabilized construction entrance and implement controls to prevent off-site tracking of sediment or other loose construction-related materials. These controls should be inspected daily.

Table 3-4 Temporary Tracking Control BMPs

BMP #	BMP Name
TC-1	Stabilized Construction Entrance/Exit
TC-2	Stabilized Construction Roadway
TC-3	Entrance/Outlet Tire Wash

Attention to control of tracking sediment off site is essential, as dirty streets and roads near a construction site create a nuisance to the public and can generate complaints to elected officials and regulators. These complaints often result in immediate inspections and regulatory actions.

3.5 Erosion and Sediment Control BMP Fact Sheet Format

A BMP fact sheet is a short document that presents detailed information about a particular BMP. Typically each fact sheet contains the information outlined in Figure 3-1. Fact sheets for each of the above activities are provided in Section 3.6.

The fact sheets also contain side bar presentations with information on BMP categories, targeted constituents, removal effectiveness, and potential alternatives.

EC-xx Example Fact Sheet <u>Description and Purpose</u> <u>Suitable Applications</u> <u>Limitations</u> <u>Implementation</u> <u>Costs</u> <u>Inspection and Maintenance</u> <u>References</u>

Figure 3-1
Example Fact Sheet

3.6 BMP Fact Sheets

BMP fact sheets for erosion, sediment, wind, and tracking controls follow. The BMP fact sheets are individually page numbered and are suitable for inclusion in SWPPPs. Copies of the fact sheets can be individually downloaded from the CASQA BMP Handbook web site at

<http://www.casqa.org>.