



© 2006 CASQA Stormwater Best Management Practices - Construction

Dust control BMPs are practices that reduce the movement of soil on the ground, in the water, and in the air in areas where soil has been disturbed. Construction sites are areas where dust control is very important because excavation, clearing, and land disturbance create open space and exposed soils that are prone to wind movements. Types of dust controls include irrigation, minimization of exposed soils, wind breaks, tillage, chemical soil treatments, mulching, and stone. (Refer to the installation section for more details on each dust control measure).

Usage

Dust control BMPs can be used on any site where dust may be generated and where dust may cause on or offsite damage. These BMPs are particularly important in drought-like conditions where wind creates the potential for dust to travel through the air and cause air and water pollution.

Benefits

- prevents wind and water based erosion of disturbed areas
- reduces respiratory problems in employees
- some BMPs can be implemented quickly at low cost and effort
- preserving existing vegetative cover onsite is free, and will limit the amount of soil exposed to transport and erosion
- helps preserve the aesthetics of the site
- reduces sedimentation and water pollution

Limitations

- some BMPs are temporary and must be applied regularly
- chemical treatments have the potential to cause adverse human health effects and water pollution when used in excess
- irrigation may cause excess runoff that the site was not designed to control
- irrigation may increase offsite tracking of mud

Estimated Cost

Cost depends entirely on the dust control BMP used. An inexpensive way to minimize the cost associated with dust control is to limit the amount of vegetation disturbed on sight. Vegetative cover will stabilize soils.

Alternatives

- Geotextiles (p. 2-6)
- Hydroseeding (p. 2-8)
- Mulching (p. 2-10)
- Seeding (p. 2-14)
- Sodding (p. 2-18)
- Street sweep & vacuum (p. 4-8)
- Vegetative buffer strip (p. 3-21)

Notes:

Installation Tips

Irrigation

- a temporary BMP involving a light application of water to moisten soil surfaces
- this practice can be applied to any site

Minimization of exposed soils

- reduces the amount of soil that is available for transport, and erosion
- this can be accomplished through temporary methods or by preserving existing vegetation onsite

Wind break

- barriers that slow the velocity of the wind: slower wind velocities cannot suspend dust particles
- can be natural or constructed, but leaving existing trees and shrubs onsite will create effective wind breaks

Tillage

- deep plowing in large open areas brings soil clods to the surface where they rest on top of dust, protecting them from wind and water erosion
- can reduce soil losses by up to 80%

Chemical soil treatments (palliatives)

- temporary controls applied to soils by a spray on method
- when choosing chemical palliatives, the chemical must be biodegradable or water-soluble
- can reduce erosion by 70 - 90%

Mulching

- can be a quick and effective BMP that can be used in areas of recent soil disturbance
- can reduce wind erosion by 80%

Stone

- an effective dust control BMP where vegetative cover and mulching cannot be applied
- particularly important on paved surfaces and at construction site entrances

Maintenance

Maintenance is unique for each site and dust control BMP used. Generally irrigation and chemical treatments require more monitoring and reapplication than structural or vegetative covers to remain effective. With all BMPs inspection is necessary to ensure the current method of control is fulfilling its designed intent.

Vendors

See Appendix pages F3-F4

References

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