

A4.1 Storage or Transfer (Outside) of Solid Raw Materials, Byproducts, or Finished Products

Description of Pollutant Sources: Some pollutant sources stored outside in large piles, stacks, etc. at commercial or industrial establishments include:

- Solid raw materials
- By-products
- Gravel
- Sand
- Salts
- Topsoil
- Compost
- Logs
- Sawdust
- Wood chips
- Lumber and other building materials
- Concrete
- Metal products

Contact between bulk materials stored outside and stormwater can cause leachate and erosion of the stored materials. Contaminants include total suspended solids, oxygen demanding substances (i.e., BOD and COD), organics, and dissolved salts (sodium, calcium, magnesium chloride, etc.).

Pollutant Control Approach: Provide impervious containment with berms, dikes, etc. and/or cover to prevent runoff and discharge of leachate pollutant(s) and total suspended solids.

Required BMPs

- Do not hose down the contained stockpile area to a storm drain or a conveyance to a storm drain or receiving water.
- The source control BMP options listed below are applicable to stockpiles greater than 5 cubic yards of erodible or water soluble materials such as:

- Soil
- Road de-icing salts
- Compost
- Unwashed sand and gravel
- Sawdust
- Outside storage areas for solid materials such as
 - Logs
 - Bark
 - Lumber
 - Metal products

Choose one or more of the following Source Controls:

- Store in a building or paved and bermed covered area as shown in Figure 4.12.



Figure 4.12. Covered and Secured Storage Area for Bulk Solids.

- Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material (Figure 4.13); or

- Pave the area and install a stormwater drainage system. Place curbs or berms along the perimeter of the area to prevent the runoff of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes the contact between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.
- For large uncovered stockpiles, implement containment practices at the perimeter of the site and at any catch basins as needed to prevent erosion and discharge of the stockpiled material offsite or to a storm drain. Ensure that no direct discharge of contaminated stormwater to catch basins exists without conveying runoff through an appropriate treatment BMP.



Figure 4.13. Temporary Plastic Sheetting Anchored over Raw Materials Stored Outdoors.

- Convey contaminated stormwater from the stockpile area to a wet pond, wet vault, settling basin, media filter, or other appropriate treatment system, depending on the contamination.

Suggested BMPs

- Maintain drainage areas in and around storage of solid materials with a minimum slope of 1.5 percent to prevent pooling and minimize leachate formation. Areas should be sloped to drain stormwater to the perimeter for collection, or to internal drainage “alleyways” where no stockpiled material exists.
- Sweep paved storage areas regularly for collection and disposal of loose solid materials.

- If and when feasible, collect and recycle water-soluble materials (leachates).
- Stock cleanup materials such as brooms, dustpans, and vacuum sweepers near the storage area.