



Targeted Constituents

<input checked="" type="radio"/> Significant Benefit		<input type="radio"/> Partial Benefit		<input type="radio"/> Low or Unknown Benefit	
<input type="radio"/> Sediment	<input checked="" type="radio"/> Heavy Metals	<input type="radio"/> Floatable Materials	<input type="radio"/> Oxygen Demanding Substances	<input type="radio"/> Bacteria & Viruses	<input checked="" type="radio"/> Construction Wastes
<input type="radio"/> Nutrients	<input checked="" type="radio"/> Toxic Materials	<input type="radio"/> Oil & Grease			

Description

Prevent or reduce the discharge of pollutants to stormwater from grounds construction and maintenance by using soil erosion controls, enclosing or covering building material storage areas, using good housekeeping practices, using safer alternative products, training employees, washing and cleaning up with as little water as possible, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Approach

This BMP is intended for minor construction only; larger construction projects should be analyzed using a much larger checklist of potential pollution sources. Modifications are a common occurrence at all types of industrial and commercial facilities. There may be maintenance personnel or even an entire maintenance crew at large industrial sites. The activity may vary from landscaping maintenance to minor building repairs or from major remodeling to the installation of new facilities on currently open space.

Construction and maintenance activities can generate pollutants that can reach stormwater if proper care is not taken. Common types of contaminants may be pesticides, herbicides, fertilizers, solvents, paints, and varnish removers, finishing residues, spent thinners, soap cleaners, kerosene, asphalt and concrete materials, adhesive residues, and old asbestos installation.

Related BMPs include:

- AM-01 Employee Training
- AM-08 Waste Management and Recycling
- AM-13 Pesticide, Herbicide and Fertilizer Use
- AM-19 Structure Construction and Painting

Training

- Educate employees who are doing the work about the importance of keeping pollutants out of the stormwater system including review of the Spill Prevention, Control and Countermeasures (SPCC) Plan.
- Make material safety data sheets (MSDS) available to all employees and review in periodic safety training.
- Inform subcontractors, such as garbage collection or material delivery, of company

policy on these matters and include appropriate provisions in their contract to make certain proper housekeeping and disposal practices are implemented.

Good Housekeeping

- Keep the work site clean and orderly. Remove debris in a timely fashion and sweep the area. Properly dispose of washwater, sweepings and sediment.
- Store materials to prevent contact with rainfall and stormwater runoff.
- Make sure that nearby storm drains are well marked, either with a color code or a painted stencil, to minimize the chance of inadvertent disposal of residual paints and other liquids.
- Use soil erosion control techniques wherever bare ground is temporarily exposed. See BMPs relating to erosion and sediment to select best methods and procedures.
- Use the entire product before disposing of the container.
- For a quick reference on disposal alternatives for specific wastes see AM-01-1 presented in employee training BMP fact sheet. Dispose of any paint, thinners, residue, and sludges that cannot be recycled as hazardous waste.
- Latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, may be disposed of with other construction debris.
- Recycle residual paints, solvents, lumber, and other materials to the maximum extent practical. Buy recycled products to the maximum extent practical.
- Inform employees and subcontractors of acceptable housekeeping, disposal, and other stormwater management practices and include appropriate provisions in subcontracts to make certain proper housekeeping disposal and other stormwater management practices are implemented.
- Do not remove original product labels from containers. Product labels contain important safety and disposal information.

Landscaping

- Landscape maintenance involves the use of pesticides and fertilizers. Proper use of these materials in the correct amounts will reduce the risk of stormwater pollution. In particular, do not apply these materials immediately prior to or during rainfall. When irrigating landscaped areas, avoid using too much water so that excess nutrients and herbicides do not wash away. Efficient use of nutrients and pesticides can save a great deal of money and will help preserve the natural streams and lakes.
- It is important to properly store pesticides and application equipment, and to dispose the used containers in a responsible manner. Personnel who apply fertilizers and pesticides should be trained in their use. Integrated pest management can be used to reduce use of pesticides.
- Keep as much wooded area as possible. Natural wooded areas require very little maintenance and generate no stormwater pollutants. The next best option is to plant native vegetation and trees in order to reduce water, fertilizer, and pesticide needs.
- Collect and dispose of grass clippings which may enter the storm drainage system or into natural streams.

Painting

- Painting operations should be properly enclosed or covered to avoid drift, typically by handing dropcloths or sheets from temporary scaffolding. Use paint application equipment that minimizes overspray. If painting requires scraping or sand blasting of the existing surface, use a groundcloth to collect the chips. If the paint chips contains lead or tributyl tin, it is considered a hazardous waste.
- Mix paint indoors before using so that any spill will not be exposed to rain. Do so even during dry weather because cleanup of a spill will never be 100% effective. Dried paint will erode from a surface and be washed away.
- If using a small amount of water-based paints, clean the application equipment in a sink that is connected to the sanitary sewer. Properly store leftover paints if they are to be kept for the next job or properly dispose of the leftover paints. For oil-based paints, paint out brushes to the extent practical, and then filter and reuse thinners. Oil-based paints must not be disposed into the sanitary sewer. Never clean paintbrushes or rinse paint containers into a street, gutter, storm drain, or watercourse.
- When using sealants on wood, pavement, roofs, etc. quickly clean up spills. Remove excess liquid with absorbent material or rags.

Building Maintenance

- Collect and properly dispose of roofing debris prior to rainfall and upon completion of work to prevent entry of debris and materials into gutter downspouts.
- When small particles have accumulated in the roof gutter, either sweep out the gutter or wash the gutter and trap the particles at the outlet of the downspout. A sock or geofabric, which can be securely fastened over the outlet may effectively trap the materials.
- Larger buildings may have the downspouts connected directly to an underground header or a storm drain. In this case, place a temporary plug at the first convenient point in the storm drain. Wash the gutters and downspouts, then pump out the washwater with a vacuum truck. Clean the catch basin sump where the plug had been placed.

Parking Area Maintenance

- Stormwater runoff from parking lots and roads may contain undesirable concentrations of oil, grease, suspended particulates, and metals such as copper, lead, cadmium, and zinc, as well as the petroleum byproducts of engine combustion. Deposition of air particulates, generated by the facility or by adjacent industries, may contribute significant amounts of pollutants.
- An appropriate method for removing pollutants from parking areas is to conduct periodic sweeping. A vacuum sweeper is a better method of sweeping rather than mechanical brush sweeping. The mechanical brush sweeper is not as effective at removing the fine particulates.
- Some form of stormwater treatment may be necessary to reduce pollutants from sizable parking lots. An oil/water separator (ST-07) is highly recommended for most parking lots. Filter strips and swales (ST-05) will reduce the amount of pollutants by using vegetation and permeable soils. If some employees have cars that are leaking visible amounts of engine fluids, encourage them to have the problem corrected.

Storm Drain Maintenance

- Catch basins and storm drain pipes generally need to be cleaned every 6 to 12 months. If the storm drain lines have a flat gradient, typically less than 1 percent, more frequent inspection and cleaning will be necessary.
- Install skimmers, “turn-down” elbows or similar devices on outlets of the catch basins. These are very inexpensive measures to help retain floatable materials, oil and grease.
- If a vacuum truck is used to clean the storm drainage system, dirty water will be generated. The washwater should not be discharged to the storm drainage system. Disposal options include: 1) an onsite process wastewater system, 2) sanitary sewer system if permission is granted by KUB, or 3) an onsite sediment basin or other form of stormwater treatment. Do not discharge to an onsite sediment basin prior to or during a rainfall event; allow washwater to infiltrate into the ground or to evaporate.

Maintenance

- Inspect the work zone daily to ensure that good housekeeping practices are being followed. Spot check employees and subcontractors regularly (typical monthly) to ensure appropriate practices are being employed.

Limitations

- Alternative pest or weed controls may not be available, suitable, or effective in every case. Safer alternative building and construction products may not be available or suitable in every instance.
- Hazardous substances that cannot be used or recycled must be disposed and handled by a licensed hazardous waste hauler.

References

33, 99 (see BMP Manual Chapter 10 for list)