

SC-32 Outdoor Equipment Operations

Description

Outdoor process equipment operations and maintenance can contaminate stormwater runoff. Activities such as grinding, painting, coating, sanding, degreasing or cleaning parts, landfills and waste piles, and solid waste treatment and disposal are examples of process operations that can lead to contamination of stormwater runoff. The targeted constituents vary for each site depending on the operation being performed.

Approach

Implement source control best management practices (BMPs) to limit exposure of outdoor equipment to direct precipitation and stormwater run-on. Refer to SC-22 Vehicle and Equipment Repair for additional information.

General Pollution Prevention Protocols

- Perform the activity during dry periods whenever possible.
- Install secondary containment measures where leaks and spills might occur.
- Use nontoxic chemicals for maintenance and minimize or eliminate the use of solvents.
- Connect process equipment areas to a public sanitary sewer or facility wastewater treatment system when possible. Some jurisdictions require that secondary containment areas be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

<i>Sediment</i>	✓
<i>Nutrients</i>	✓
<i>Trash</i>	✓
<i>Metals</i>	✓
<i>Bacteria</i>	✓
<i>Oil and Grease</i>	✓
<i>Organics</i>	✓

Minimum BMPs

 <i>Good Housekeeping</i>	✓
 <i>Preventative Maintenance</i>	✓
 <i>Spill and Leak Prevention and Response</i>	✓
 <i>Material Handling & Waste Management</i>	✓
 <i>Erosion and Sediment Controls</i>	
 <i>Employee Training Program</i>	✓
 <i>Quality Assurance and Record Keeping</i>	✓



Good Housekeeping

- Manage materials and waste properly to reduce adverse impacts on stormwater quality (see “Material Handling and Waste Management” later in this fact sheet).



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- Cover the work area with a permanent roof if possible.
- Use drop cloths for sanding and painting operations.
- Use a vacuum for fine particle cleanup in pavement cracks and crevices.
- Minimize contact of stormwater with outside process equipment operations through berming and drainage routing (run-on prevention).
- “Spot clean” leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.
- Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- Use roll-down or permanent walls when conditions are windy or breezy to prevent wind transport of particulates or pollutants.



Preventative Maintenance

- Design outdoor equipment areas to prevent stormwater runoff and spills. Use a perimeter drain or slope pavement inward with drainage to a sump.
- Dry clean the work area regularly. Do not wash outdoor equipment with water if there is a direct connection to a storm drain.
- Pave the equipment operation area with concrete rather than asphalt.
- Inspect outdoor equipment regularly for leaks or spills. Also check for structural failure, spills and overfills resulting from operator error, and failure of the piping system.
- Inspect and clean, if necessary, storm drain inlets and catch basins within the outdoor equipment area before October 1 each year.



Spill and Leak Prevention and Response

- Keep your spill prevention, control, and countermeasure (SPCC) plan up to date.
- Have employees trained in emergency spill cleanup procedures present when dangerous waste, liquid chemicals, or other wastes are delivered.
- Place a stockpile of spill cleanup materials where they are readily accessible.
- Prevent operator errors by using engineering safe guards and thus reducing accidental releases of pollutant.



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Material Handling and Waste Management

- Do not pour liquid wastes into floor drains, sinks, outdoor storm drain inlets, or other storm drain or sewer connections.
- Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- Minimize the possibility of stormwater pollution from outside waste receptacles by doing at least one of the following:
 - ✓ Use only watertight waste receptacles and keep the lids closed.
 - ✓ Grade and pave the waste receptacle area to prevent run-on of stormwater.
 - ✓ Install a roof over the waste receptacle area.



Employee Training Program

- Educate employees about pollution prevention measures and goals.
- Train employees on proper equipment operation and maintenance procedures.
- Train all employees upon hiring and annually thereafter on proper methods for handling and disposing of waste. Ensure that all employees understand stormwater discharge prohibitions, wastewater discharge requirements, and these BMPs.
- Use a training log or similar method to document training.
- Ensure that employees are familiar with the site's SPCC plan and/or proper spill cleanup procedures.



Quality Assurance and Record Keeping

- Keep accurate maintenance logs that document minimum BMP activities performed for outdoor equipment, types and quantities of materials removed and disposed of, and any improvement actions.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and the method used to dispose of the waste.
- Establish procedures to complete logs and file them in the central office.

Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing, and time limitations that preclude implementation of BMPs. The following are typical limitations and recommended work-arounds.

- Providing cover over outdoor equipment may be impractical or cost-prohibitive.

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- ✓ Operate outdoor equipment only during periods of dry weather.
- Regular operations and time limitations might require outdoor activities during wet weather.
 - ✓ Designate specific areas for outdoor activities.
 - ✓ Allow time for work area cleanup after each shift.
 - ✓ Require employees to understand and follow preventive maintenance and spill and leak prevention BMPs.
 - ✓ Design and install secondary containment and good housekeeping BMPs for outdoor equipment area.
- Storage sheds often must meet building and fire code requirements.

Potential Capital Facility Costs and Operation & Maintenance Requirements Facilities

- Many facilities already have indoor covered areas for vehicle and equipment repairs activities and will require no additional capital expenditures.
- If outdoor activities are required, construction of berms or other means to retain spills and leaks might require appropriate constructed systems for containment. These containment areas could require significant new capital investment.
- Capital investments will likely be required at some sites if cover and containment facilities are inadequate and can vary significantly depending upon site conditions.

Maintenance

- Most of the operations and maintenance (O&M) activities associated with implementing these BMPs are integrally linked to routine operations as previously described. Therefore additional O&M is not required.
- For facilities responsible for pretreating their wastewater prior to discharging, the proper functioning of structural treatment system is an important maintenance consideration.
- Routine cleanout of oil and grease is required for the devices to maintain their effectiveness, usually at least once a month. During periods of heavy rainfall, cleanout is required more often to ensure pollutants are not washed through the trap. Sediment removal is also required on a regular basis to keep the devices working efficiently.

References and Resources

Minnesota Pollution Control Agency. 2015. *Industrial Stormwater Best Management Practices Guidebook BMP 26 Fueling and Liquid Loading/Unloading Operations*.

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Santa Clara Valley Urban Runoff Pollution Prevention Program. Available online at <http://www.scvurppp.org/>.

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