



a guide to commercial and industrial
best management practices



Clark County, NV

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[Introduction]

Purpose of Manual

This manual provides a basic toolbox of BMPs that may be implemented at industrial and commercial facilities in order to reduce pollution to the storm sewer system.

Clark County Water Quality Planning

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(702)668-8674

www.ClarkCountyNV.gov

keyword – water quality

In Nevada’s arid climate, water is a precious resource. In addition to having enough water for our communities, it is essential that the water be of good quality to support swimming, fishing, drinking, irrigating, and other uses. While we’ve made a lot of progress in cleaning up specific sources of pollutants, our everyday actions continue to affect water quality. Water flowing over the land, whether from rain, car washing, or the watering of crops or lawns, picks up a variety of contaminants. These contaminants include oil, sediment, chemicals, nutrients, and toxic materials. The runoff finds its way into our waterways, either directly or through storm drain collection systems.

The term nonpoint source pollution is used to distinguish this type of pollution from point source pollution. Point source pollution comes from specific sources, such as sewage treatment plants or industrial facilities. Scientific evidence shows that although huge strides have been made in cleaning up major point sources, our precious water resources are still threatened by the effects of polluted runoff. In fact, the United States Environmental Protection Agency has estimated that polluted runoff is now the single largest cause of the deterioration of our nation’s water quality.

In the following pages you will find information on non-structural Best Management Practices, or BMPs, that can be used on industrial and commercial properties to limit the amount of stormwater pollution making its way to the Las Vegas Wash and Lake Mead. The BMPs listed in this manual are not specifically required by regulation, but are recommended for implementation as a part of your on-site training and stormwater management program.

Stormwater pollution in Unincorporated Clark County is regulated through Clark County Code Chapter 24.40. For more information on regulations governing stormwater management in Unincorporated Clark County, please visit www.ClarkCountyNV.gov – keyword: Water Quality or (702) 668-8674.

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Employee training is your first-line BMP and should be used in conjunction with all other BMPs in use at your facility. The information provided in this manual provides information on BMPs and can be used to train employees on important stormwater protection practices.

To inquire about, or schedule, stormwater training through Clark County, please contact the Water Quality Planning Division at (702) 668-8674 or at waterquality@cleanwaterteam.com.

OBJECTIVES:

Employee training should be based on four objectives:

- Promote a clear identification and understanding of the problem, including activities with the potential to pollute stormwater;
- Identify solutions (BMPs);
- Promote employee ownership of the problems and the solutions; and
- Integrate employee feedback into training and BMP implementation.

APPROACH:

- Integrate training regarding stormwater quality management with existing training programs that may be required for your business by other regulations.
- Businesses that are not regulated in Federal, State, or local regulations, may use the information in this Handbook to develop a training program to reduce their potential to pollute stormwater.
- Employee training is a vital component of many of the individual source control BMPs included in this manual.



BMP [NON-STORMWATER DISCHARGES]

TARGETED POLLUTANTS

- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
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- Bacteria & Viruses

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Eliminate non-stormwater discharges to the stormwater collection system. Non-stormwater discharges may include: process wastewaters, cooling waters, wash waters, and sanitary wastewater.

APPROACH:

The following approaches may be used to identify non-stormwater discharges:

- Visual inspection: The easiest method is to inspect each discharge point during dry weather. Keep in mind that drainage from a storm event can continue for several days after the event and groundwater may infiltrate the underground stormwater collection system.
- Piping Schematic Review: The piping schematic is a map of pipes and drainage systems used to carry wastewater, cooling water, sanitary wastes, etc... A review of the “as-built” piping schematic is a way to determine if there are any connections to the stormwater collection system. Inspect the path of floor drains in older buildings.
- Smoke Testing: Smoke testing of stormwater collection systems is used to detect connections between the two systems. During dry weather the stormwater collection system is filled with smoke and then traced to sources. The appearance of smoke at the base of a toilet indicates that there may be a connection between the sanitary and the stormwater system.
- Dye Testing: A dye test can be performed by simply releasing a dye into either the sanitary or process wastewater system and examining the discharge points from the stormwater collection system for discoloration.
- Training: Train field personnel to identify non-stormwater discharges and report them to appropriate facility supervisors and management.

LIMITATIONS:

- Many facilities do not have accurate, up-to-date schematic drawings.
- Video and visual inspections can identify illicit connections to the storm sewer, but further testing is sometimes required (e.g. dye, smoke) to identify sources.



BMP [BUILDING & GROUNDS MAINTANANCE]

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Building and grounds maintenance requires good housekeeping practices as a method to control discharge of pollutants from your site. These procedures include maintenance activities and schedules, procedures for the proper disposal of waste, and long-term inspection and maintenance procedures for all portions of your site including:

- Parking lots
- Process areas
- Landscape areas
- Maintenance and storage yards

APPROACH:

- On undisturbed areas of your property, preserve existing native vegetation to reduce water, fertilizer, and pesticide needs.
- When necessary, carefully use pesticides and fertilizers in landscaping per manufacturer's recommendations.
- Integrate pest management where appropriate.
- Develop and implement a general maintenance schedule that includes a list of task and the frequency of their completion.
- Sweep paved surfaces on a scheduled basis.
- Employ dry clean-up methods whenever possible.
- Clean the storm drainage system at appropriated intervals.
- Properly dispose of wash water, sweepings, and sediments.
- Promote the recycling and reuse of products and clippings.
- Properly label, seal, and store chemicals and toxic materials under cover and/or within secondary containment.

LIMITATIONS:

Alternative pest/weed controls may not be available, suitable, or effective in every case.



BMP [SECONDARY CONTAINMENT]

TARGETED POLLUTANTS

- Sediment
- Heavy Metals
- Oil & Grease
- Floatable Materials

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Secondary containment is a liquid tight barrier that will adequately contain materials that are released from a storage container. Secondary containment prevents spills, leaks, etc. from being released into the MS4 by containing runoff or routing it to treatment or control areas. Common forms of secondary containment include curbing, secondary containment pallets, double-walled tanks, and berms.

APPROACH:

- Secondary containment can be used at all industrial facilities. It is particularly useful in areas where liquid materials are transferred.
- Common curbing materials include earth, concrete, asphalt, synthetic materials, metal, or other impenetrable materials.
- For maximum efficiency, materials spilled within a curbed area should be removed immediately.
- Secondary containment areas should have pumping systems, instead of drainage systems, for collecting spilled materials.
- Secondary containment systems should be maintained through repair (patching/replacement).
- To minimize the amount of spilled material tracked outside of the area by personnel and equipment, grade within the secondary containment area to direct the spilled away for the containment area's ingress/egress.

LIMITATIONS:

- Curbing is not effective for holding large spills.

MAINTENANCE:

- Inspection should be conducted before and after storm events.
- When certain spills occur, cleanup should start immediately, thus preventing overflows and contamination of stormwater runoff.
- Inspection should also be made to clear clogging debris, prevent dilution by rainwater, and to prevent overflow of any materials.
- Pumping of contaminants when necessary.



BMP [DRIP PANS]

TARGETED POLLUTANTS

- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease

IMPACT

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- Medium Impact

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DESCRIPTION:

Drip pans are used to catch drips from valves, pipes, etc. in order to prevent they stormwater contamination. Drip pans can be structural depressions in concrete or asphalt, or can be temporary containment pans made of metal, plastic, or any material that does not react with the dripped chemicals. Although leaks and drips should be repaired and eliminated as part of a preventative maintenance program, drip pans can provide a temporary solution when repair or replacement must be delayed. In addition, drip pans can be an additional safeguard when positioned beneath areas where leaks and drips are likely to occur.

APPROACH:

- When using drip pans, consider the location of the drip pan, weather conditions, type of material used for the drip pan, and how it will be cleaned.
- The location of the drip pan is important. Because drip pans must be inspected and cleaned frequently, they must be easy to reach and remove. However, take special care to avoid placing drip pans where they can be easily overturned or may be a safety hazard.
- Develop an inspection schedule to ensure that drip pans are emptied. Frequently inspect areas where drip pans are used for:
 - Leaks in the drip pans.
 - Leaks in piping or valves that may require maintenance.
 - Irregular slow drips that may increase in volume and overwhelm the drip pan.

LIMITATIONS:

- Contain small volumes only.
- Must be inspected and cleaned frequently.
- Must be secured during poor weather conditions.
- Contents may be disposed of improperly unless facility personnel are trained in proper disposal methods.



BMP [STRUCTURAL AND NON-STRUCTURAL COVERS]

TARGETED POLLUTANTS

- Nutrients
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Material
- Bacteria & Viruses

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Covering certain areas or activities prevents stormwater from coming into contact with sources of pollutants and reduces material loss from wind blowing. Structural covers are partial or total physical enclosure of materials, equipment, process operations, or activities. Roofs, buildings, doghouses and other enclosures are examples of structural covering that are effective in preventing stormwater contamination. Tarps and plastic sheeting are examples of non-structural covers that can be effective in protecting materials from rainwater.

APPROACH:

- Structural covers are appropriate for outdoor material storage piles (e.g., stockpiles of dry materials, gravel, sand, compost, sawdust, wood chips, and de-icing salt) as well as areas where liquids and solids in containers are stored or transferred.
- While it may be too expensive to cover all industrial activities, cover high-risk areas first (e.g., chemical preparation areas, vehicle maintenance areas), then, according to budget, cover the rest of the materials.
- Evaluate the strength and longevity of the covering, as well as its compatibility with the material or activity being enclosed. Some materials that pose environmental and safety dangers require special considerations.
- When designing an enclosure, consider access to materials, their handling, and transfer.
- Covering alone may not protect the materials. When designing, consider placing materials on an elevated, impermeable surface, or build curbing around the outside of the materials to prevent problems run-on/run-off.
- If non-structural coverings are being employed (such as tarps or plastic sheeting), anchor coverings with stakes, tie-down ropes, large rocks, tires, or other easily available heavy objects.

LIMITATIONS:

- Requires frequent inspection.
- May pose health or safety problems if enclosure is built over certain activities.

MAINTENANCE:

- Frequently inspect coverings for rips, holes and general wear.



TARGETED POLLUTANTS

- Heavy Metals
- Toxic Materials
- Oil & Grease

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Signs and labels identify problem areas or hazardous materials at a facility. Warning signs, often found at industrial facilities, are a good way to suggest caution in certain areas. Signs and labels can also provide instructions on the use of materials and equipment. Labeling is a good way to organize large amounts of materials, pipes, and equipment, particularly on large sites.

APPROACH:

Signs and labels can be used at all types of facilities. Areas where they are particularly useful are material transfer areas, equipment areas, loading and unloading areas, or anywhere information might prevent contaminants from being released to stormwater.

Signs and labels should be visible and easy to read. All chemical / liquid containers stored outside are required to have labels identifying their contents. Additional signs and labels might provide the following information:

- Names of facility and regulatory personnel, including emergency phone numbers, to contact in case of an accidental discharge, spill, or other emergency.
- Proper uses of equipment that could cause release of stormwater contaminants.
- Types of chemicals used in high-risk areas.
- The direction of drainage lines/ditches and their destination (treatment or discharge).
- Information on a specific material.
- Refer to OSHA standards for sizes and numbers of signs required for hazardous material labeling.
- Label storm drain inlets with “Don’t Pollute, Drains to Lake Mead” or similar.

LIMITATIONS:

No limitations.

MAINTENANCE:

- Periodic checks can ensure that signs are still in place and labels are properly attached.
- Signs and labels should be replaced and repaired as often as necessary.



BMP [OUTDOOR STORAGE OF BULK MATERIAL]

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oil & Grease
- Floatable Materials

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from outdoor materials and product storage areas by enclosing or covering materials, installing secondary containment, and preventing stormwater run-on.

APPROACH:

- Protect materials from rainfall, run-on, runoff and wind dispersal:
 - Store material indoors, when possible.
 - Cover the storage area with a roof.
 - Cover the material with a temporary covering made of polyethylene, polypropylene, or hypalon.
 - Minimize stormwater run-on by enclosing the area or building a berm around the area.
 - Use a secondary containment pallet for storage of liquid containers.
 - Employ the use of BMPs around stockpiles. BMPs may be non-structural (gravel bags, straw waddles, sorbent socks) or structural (berms, curbing).
- Parking lots or other surfaces near bulk materials should be swept periodically to remove debris blown or washed from storage area.
- Keep liquids in a designated area on a paved impervious surface within a secondary containment.
- Keep outdoor storage containers in good condition.
- Use drain inserts.
- Use sorbent socks and/or straw waddles to protect drainage discharge points.

LIMITATIONS:

- Space limitations may preclude storing some materials indoors.
- Storage sheds often must meet building and fire code requirements.

MAINTENANCE:

- Berm and curbing repair and patching.
- Replacement of straw waddles and sorbent socks.
- Drain insert cleaning.
- Inspection of secondary containment and pumping/disposal of contaminates as necessary.



TARGETED POLLUTANTS

- Toxic Materials
- Oil & Grease

IMPACT

- High Impact
- Medium Impact

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keyword – water quality

DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from hazardous waste through proper material use and storage, waste disposal, and training of employees and subcontractors.

APPLICATION:

Many chemicals and materials used on-site are considered hazardous waste. These wastes may include:

- Paints and solvents, petroleum products such as oils, fuels and greases, herbicides and pesticides, acids for cleaning masonry, and concrete curing compounds.
- Sandblasting grit mixed with lead, cadmium or chromium based paints, asbestos, and PCBs.

INSTALLATION/APPLICATION/STORAGE CRITERIA:

The following steps will help reduce stormwater pollution from hazardous wastes:

- Use the entire product before disposing of the container.
- Do not remove the original product label, as it contains important safety and disposal information.
- Do not over-apply herbicides and pesticides. Prepare only the amount needed. Follow the recommended usage instructions.
- Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried off-site by runoff.
- Do not apply these chemicals just before it rains. People applying pesticides must be certified in accordance with Federal and State regulations.
- Store hazardous materials indoors or under roof, if possible.
- Always keep containers labeled and sealed.
- If hazardous materials are stored outside, provide secondary containment.
- Never store incompatible materials in the same area.

LIMITATIONS:

Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.

MAINTENANCE:

- Inspect hazardous waste receptacles and areas regularly.
- Arrange for regular hazardous waste collection.



BMP [OUTDOOR LIQUID STORAGE]

TARGETED POLLUTANTS

- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas by installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

APPROACH:

Protect materials from rainfall, run-on, runoff, and wind dispersal:

- Store materials indoors, when possible.
- Place all liquids stored outdoors on secondary containment pallets or within containment areas.
- Minimize stormwater run-on by enclosing the area or building a berm around the area.
- Use a secondary containment pallet, or similar, for storage of liquid containers.
- Use covered dumpsters for waste product containers.

Storage of oil and hazardous materials must meet the following standards:

- Secondary containment
- Integrity and leak detection monitoring
- Emergency preparedness plans
- Sealed containers
- Labeling
- All federal, state, and local standards

Train operators and employees on proper storage.

Safeguards against accidental releases:

- Overflow protection devices to warn operator or automatic shut down transfer pumps.
- Protection guards (bollards) around tanks and piping to prevent vehicle or forklift damage.
- Clear tagging or labeling.
- Restricting access to valves to reduce human error.
- Regular facility inspections.

Berm or surround tank or container with secondary containment system:

- Dikes, liners, vaults, or double walled tanks. Some municipalities require that secondary containment areas be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

LIMITATIONS:

Storage sheds often must meet building and fire code requirements.

MAINTENANCE:

- Conduct routine inspections.



BMP [OUTDOOR MATERIAL LOADING/UNLOADING]

TARGETED POLLUTANTS

- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials

IMPACT

- High Impact
- Medium Impact

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keyword – water quality

DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from outdoor loading docks and the loading/unloading of materials.

APPROACH:

- Park tank trucks or delivery vehicles so that spills or leaks can be contained.
- Cover the loading/unloading docks to reduce exposure of materials to rain, when possible.
- A seal or door skirt between trailer and building can also prevent exposure to rain.
- Design loading/unloading area to prevent stormwater run-on: grade/berm and position roof downspouts to direct stormwater away from loading/unloading areas.
- Contain leaks during transfer.
- Use drip pans under hoses.
- Make sure fork lift operators are properly trained.
- Train employees for spill containment and cleanup.

LIMITATIONS:

- Space and time limitations may preclude all transfers from being performed indoors or under cover.
- It may not be possible to conduct transfers only during dry weather.

MAINTENANCE:

- Conduct regular inspections and make repairs as necessary. The frequency of repairs will depend on the age of the facility.
- Check loading and unloading equipment regularly for leaks: valves, pumps, flanges, and connections.
- Use dry clean-up methods to clean up spills.
- Regularly inspect and maintain loading dock drains, sand/oil separators, etc.



BMP [OUTDOOR PROCESS EQUIPMENT OPERATION]

TARGETED POLLUTANTS

- Sediment
- Heavy Metals
- Toxic Materials
- Substances
- Oil & Grease

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from outdoor process equipment operations and maintenance by reducing the amount of waste created, enclosing or covering all or some of the equipment, installing secondary containment, and training employees.

APPROACH:

- Alter the activity to prevent exposure of pollutants to stormwater.
- Move activity indoors.
- Cover the area with a permanent roof.
- Minimize contact of stormwater with outside manufacturing operations through berming and drainage routing (run-on prevention).
- Contact your local waste treatment facility to identify if any process equipment areas should be connected to public sewer.
- Clean the storm drainage system regularly.
- Use catch basin filtration inserts as a means to capture particulate pollutants.
- Use straw waddles and sorbent socks to capture particulate and oil pollutants from surface runoff.

LIMITATIONS:

- Providing cover may be expensive.
- Space limitations may preclude enclosing some equipment.
- Storage sheds often must meet building and fire code requirements.

MAINTENANCE:

- Routine preventive maintenance, including checking process equipment for leaks.
- Regularly inspect, clean, and replace BMPs.



BMP [VEHICLE AND EQUIPMENT FUELING]

TARGETED POLLUTANTS

- Heavy Metals
- Toxic Materials
- Oil & Grease

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Prevent fuel spills and leaks, and reduce their impacts to stormwater by using off-site facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors.

APPROACH:

- Use off-site fueling stations as much as possible. Fueling vehicles and equipment outdoors or in areas where fuel may spill/leak onto paved surfaces or into drainage pathways can pollute stormwater. If you fuel a large number of vehicles or pieces of equipment, consider using an off-site fueling station. These businesses are better equipped to handle fuel and spills properly. Performing this work off-site can also be economical by eliminating the need for a separate fueling area at your site.
- If fueling must occur on-site, use designated areas, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.
- Discourage "topping-off" of fuel tanks.
- Always use secondary containment, such as a drain pan or drop cloth, when fueling to catch spills/leaks. Place a stockpile of spill cleanup materials where it will be readily accessible. Use adsorbent materials on small spills rather than hosing down or burying the spill. Remove the adsorbent materials promptly and dispose of properly.
- Carry out all federal and state requirements regarding stationary above ground storage tanks. Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and perhaps forklifts, most vehicles should be able to travel to a designated area with little lost time. Train employees and subcontractors in proper fueling and cleanup procedures.

LIMITATIONS:

- Sending vehicles/equipment off-site should be done in conjunction with Stabilized Construction Entrance (See Construction Entrance BMP in Appendix C of the *Las Vegas Valley Construction Site Best Management Practices Guidance Manual* available at www.lvstormwater.com.)
- Keep ample supplies of spill cleanup materials on-site.
- Inspect fueling areas and storage tanks on a regular schedule.



BMP [VEHICLE AND EQUIPMENT WASHING]

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding

IMPACT

- High Impact
- Medium Impact

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DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from vehicle and equipment washing and steam cleaning by using off-site facilities, washing in designated, contained areas only, eliminating discharges to the storm drain by infiltrating or recycling the wash water, and training employees and subcontractors.

APPROACH:

- Use off-site commercial washing and steam cleaning businesses as much as possible. Washing vehicles and equipment outdoors or in areas where wash water flows onto paved surfaces or into drainage pathways can pollute stormwater. If you wash a large number of vehicles or pieces of equipment, consider conducting this work at an off-site commercial business. These businesses are better equipped to handle and dispose of the wash waters properly. Performing this work off-site can also be economical by eliminating the need for a separate washing operation at your site.
- If washing must occur on-site, use designated, bermed wash areas to prevent wash water contact with stormwater, washes, and other water bodies. The wash area can be sloped for wash water collection and subsequent infiltration into the ground.
- Use as little water as possible to avoid having to install erosion and sediment controls for the wash area. Use phosphate-free biodegradable soaps. Educate employees and subcontractors on pollution prevention measures. Do not permit steam cleaning on-site. Steam cleaning can generate significant pollutant concentrations.

LIMITATIONS:

- Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades.
- Sending vehicles/equipment off-site should be done in conjunction with Stabilized Construction Entrance (See Construction Entrance BMP in Appendix C of the *Las Vegas Valley Construction Site Best Management Practices Guidance Manual* available at www.lvstormwater.com).
- The measures outlined in this fact sheet are insufficient to address all the environmental impacts and compliance issues related to steam cleaning.
- Clark County Storm Sewer System regulations do not allow non-stormwater discharges unless expressly permitted by the Nevada Division of Environmental Protection.

MAINTENANCE:

- Minimal, some berm repair may be necessary.



TARGETED POLLUTANTS

- Heavy Metals
- Toxic Materials
- Oil & Grease

IMPACT

- High Impact
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DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from vehicles and equipment maintenance and repair by running a dry shop.

APPROACH:

- Keep equipment clean, don't allow excessive build-up of oil and grease.
- Keep drip pans or containers under the areas that might drip.
- Do not change motor oil or perform equipment maintenance in non-appropriate areas.
- Inspect equipment for leaks on a regular basis.
- Segregate wastes.
- Make sure oil filters are completely drained and crushed before recycling or disposal.
- Make sure incoming vehicles are checked for leaking oil and fluids.
- Clean yard storm drain inlets regularly and especially after large storms.
- Do not pour materials down drains or hose down work areas; use dry seeping.
- Store idle equipment under cover.
- Drain all fluids from wrecked vehicles.
- Recycle greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic, and transmission fluids.
- Switch to non-toxic chemicals for maintenance when possible.
- Clean small spills with rags, general clean-up with damp mops and larger spills with absorbent material.
- Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- Train employees, minimize use of solvents.

LIMITATIONS:

- Space and time limitations may preclude all work being conducted indoors.
- It may not be possible to contain and clean up spills from vehicles/equipment brought on-site after working hours.
- Dry pans are generally too small to contain antifreeze, which may gush from some vehicles, so drip pans may have to be purchased or fabricated.
- Dry floor cleaning methods may not be sufficient for some spills.

MAINTENANCE:

- Should be low if procedures for the approach are followed.



BMP [WASTE HANDLING AND DISPOSAL]

TARGETED POLLUTANTS

- Heavy Metals
- Toxic Materials
- Oil & Grease

IMPACT

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keyword – water quality

DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from waste handling and disposal by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing run-on and runoff from waste management areas.

APPROACH:

- Maintain usage inventory to limit waste generation.
- Substitute or eliminate raw materials.
- Modify process or equipment.
- SARA Title III, Section 313 requires reporting for over 300 listed chemicals and chemical compounds. This requirement should be used to track these chemicals although this is not as accurate a means of tracking as other approaches.
- Track waste generated.
- Use economic data and review: Waste treatment and disposal cost. Product utility and economic cost. Operation and maintenance labor cost.
- Recycle materials whenever possible.
- Maintain list of and the amounts of materials disposed.
- Segregation and separate waste.
- Cover, enclose, or berm industrial wastewater management areas whenever possible to prevent contact with runon or runoff.
- Equip waste transport vehicles with anti-spill equipment.
- Minimize spills and fugitive losses such as dust or mist from loading systems.
- Ensure that sediments or wastes are prevented from being tracked off-site.
- Training and supervision.
- Stencil storm drains on the facility's property with prohibitive message regarding waste disposal.

LIMITATIONS:

Hazardous waste that cannot be re-used or recycled must be disposed of by a licensed hazardous waste hauler.

