



PROPERTY USE BMPs

Department of Business, Economic Development & Tourism

Hawai'i Community Development Authority

For more information, visit <http://dbedt.hawaii.gov/hcda/storm-water-pollution-prevention/>

Kaka'ako has a unique blend of urban vibrancy, cultural richness, and community spirit that brings people together by creating a place where people can work, live, visit, learn, and play. Its visual appeal makes it an inviting destination where people want to come and stay a while.

Property maintenance activities are essential for preserving the charm of Kaka'ako by ensuring the upkeep of residences, commercial buildings, and landscaping. However, if not managed properly, many of these activities can lead to pollutants, such as sediment, oil, grease, pesticides, herbicides, nutrients from fertilizers, bacteria/viruses from pet waste, and heavy metals, from entering the storm drain system and ultimately contaminating Kewalo Basin Harbor, Honolulu Harbor, and the Pacific Ocean. These pollutants harm us by killing local marine life, making it unsafe to swim or consume seafood from the ocean, and causing the waters to become murky, smelly, or overgrown with algae.

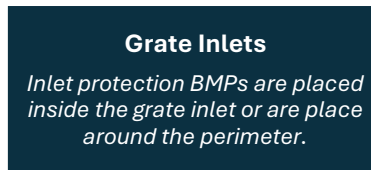
HCDA encourages each business and property owner to walk around your property. Identify the maintenance activities performed on the property and potential pollutant sources. Note the type and location of nearby storm drain inlets. Depending on the maintenance activity, you may need to implement inlet protection BMPs to prevent pollutant discharges or clean up in the event of a discharge.

This article contains best management practices (BMPs) for the most common types of maintenance activities for commercial and residential properties. Remember, BMPs that are implemented properly prevent pollutant discharges and help to protect water quality in our streams, harbors, and the ocean.



Catch Basins

Inlet protection BMPs are placed in front of the drain or a series of check dams are placed up stream to slow the flow of water.



Grate Inlets

Inlet protection BMPs are placed inside the grate inlet or are placed around the perimeter.



Trench Drains

Similar to grate inlets, BMPs are placed inside the trench or are placed around it.

GENERAL POLLUTION PREVENTION BMPs

- Schedule maintenance activities to avoid exposure to rainfall, runoff, and wind.
- Routinely inspect and clean outdoor areas:
 - Storm drain inlets,
 - Loading docks and shipping/ receiving areas,
 - Work areas,
 - Chemical storage areas, and trash enclosure and bins.

GENERAL POLLUTION PREVENTION BMPs *Continued*

- Clean surfaces by sweeping, vacuuming or mopping – never wash down surfaces into the storm drain inlet, street, gutter, or waterway.
- Sweep parking areas and look for any stains or puddling of vehicle fluids. Use absorbents to soak up any fluids. Sweep up and properly dispose of any absorbents used.
- Pick up litter and trash daily.
- Mobile washing of some types of equipment, such as roof exhaust equipment or shopping carts, is acceptable if all wash water is contained, vacuumed up, and directed to the sanitary sewer, with authorization from the City and County of Honolulu prior to disposal to sanitary sewer.
- Wash equipment indoors, at a utility or mop sink or location where wash waters drain to the sanitary sewer.

FIVE TIPS TO KEEP IN MIND

1. Keep your business neat and clean- it saves time, money, and prevents pollution.
2. Protect your storm drain inlets from pollution before performing maintenance activities. Remember, only rain down the storm drain.
3. Make spill kits easily accessible.
4. Use dry methods to clean up spills. Never wash spills down the storm drain.
5. Train staff regularly on proper BMPs.

EDUCATE RESIDENTS, TENANTS, AND MAINTENANCE STAFF

- Educate residents by posting signs to properly pick up pet waste by using a bag, tying it, and disposing of it in a trash bin. Consider installing pet waste stations on your property.
- Ensure storm drains are marked with a 'No Dumping' message and that it is legible.
- Consider placing signage near trash enclosure areas to remind tenants and residents to properly bag trash and provide directions on what to do with bulky items.
- Train staff on spill containment and clean-up procedures.



HARDSCAPE/CONCRETE AREAS

- Check for stains, leaks, or spills. Use dry methods to clean up such as rags or absorbents and properly dispose of used materials.
- If pressure washing stains:
 - Remove or sweep up any debris, trash, and dirt and properly dispose of it.
 - Identify where the water will flow (e.g. vegetated area, sidewalks, streets, storm drains, etc.).
 - Identify if the soaps or chemicals are needed to remove stains.
 - If soap or chemicals are needed, collect wash water and dispose of it via landscape areas or to the sanitary sewer, with authorization from City and County of Honolulu before disposal to the sanitary sewer.
 - If not, put up barriers or geotextile filters to slow down and filter out sediment from wash water prior to discharging to the storm drain system.
- Sweep up and properly dispose of any accumulated materials before removing the barrier or filter.

TRASH BINS AND DUMPSTER AREAS

- Check that trash is not piling up in areas surrounding trash bins and dumpsters.
- Keep trash bins and dumpsters covered/closed when not in use.
- Clean-up any leaks, stains, or grime found around trash bins and dumpsters.
- Repair any leaking trash bins or dumpsters.

LANDSCAPED AREAS

- Check whether your landscaping is specifically designed to treat stormwater runoff. If it is, follow the operation and maintenance (O&M) plan.
- Collect and properly dispose of any loose leaves, clippings, other debris, and litter.
- Look for patches of bare soil or sediment discharging to impervious areas. Plant additional vegetation or add ground cover materials (e.g. mulch, wood chips, gravel, etc.) to any areas with exposed soils.
- Check that sprinklers are not leaking, overwatering an area, or over spraying onto impervious surfaces.
- Properly store and use fertilizers, pesticides, and herbicides in accordance with package instruction or Safety Data Sheet (SDS).
- Do not apply fertilizers, pesticides, or herbicides when rain is forecasted within 48 hours or when wind speeds are above five (5) miles per hour.



Safety Data Sheet (SDS)

An SDS is a standardized document that contain information from the chemical manufacturer to communicate the hazard information to those that handle their chemicals. These sheets include chemical properties, potential health and environmental hazards, recommended protective measures, as well as safety precautions for proper storage, handling, and transportation of chemicals.

MATERIAL AND MAINTENANCE EQUIPMENT AREAS

- Keep chemicals stored under cover, off the ground, and in labeled containers.
- When transferring liquids, prevent spills by using drip pans, secondary containment, and/or absorbents.
- Place a spill kit near any chemicals stored onsite. Keep a copy of the SDS nearby for reference in case of a spill.

SURFACE PREPARATION & PAINT REMOVAL

- Install inlet protection or block nearby storm drain inlets with inlet protection BMPs.
- Remove loose paint using methods such as sandblasting, wet scraping, or sandpaper with a drop cloth. Do not pressure wash to remove paint.
- Sweep or vacuum paint chips and dust.
- Mix paint indoors or in a contained area using a drop cloth underneath.
- Train all painters on spill containment and clean-up procedures. Make spill kits and absorbents easily accessible.
- Check maintenance equipment/vehicles for leaks. Place a drip pan under equipment/vehicle and have it repaired as soon as possible.

POOLS, SPAS, AND WATER FEATURES

- Dechlorinate water prior to disposing. There are several ways water can be dechlorinated:
 - Allow chlorine to dissipate over time. Do not add new chlorine and keep the pool pump running.
 - Use a chlorine neutralizer, or
 - Use a non-hazardous, environmentally friendly alternative.
- Dechlorinated water may be used to irrigate landscaping or can be discharged to the storm drain system after applying for and receiving a discharge permit from the City and County of Honolulu.
- Use and dispose of cleaning products as described on the label.

VEHICLE MAINTENANCE/WASHING

- Use drip pans under leaking vehicles.
- Sweep or vacuum the shop floor and other paved surfaces.
- Use dry methods (e.g. rags, mop, absorbents, etc.) to clean up spilled oil or fluids.
- Label and store hazardous chemicals in secondary containment. Store all other chemicals, under cover and elevated off the ground.
- Keep a spill kit and SDS near areas where chemicals are stored/used.
- Consider installing a berm and/or roof for areas where maintenance or vehicle washing occurs to prevent discharges to the storm drain inlets.
- If car washing is central to your business, consider treating and recycling wash water.
- Collect and contain all wash water for proper disposal.
- Periodically clean wash bay/rack paved surfaces and sump to remove accumulated materials.
- Inspect the area surrounding the wash bay/rack for leaks, overspray, or other signs of ineffective containment or damage to berms.



Spill Kit

A spill kit is essential in the event that a chemical or hazardous material spill occurs. A spill kit should include at the minimum the following items:

1. Absorbents
2. Personal Protective Equipment
3. Containment and Clean-up Tools

In addition, you may want to consider including an instruction manual for using the spill kit and equipment to properly mark/close off or alert others of the area where the spill occurred.

RESTAURANTS/FOOD INDUSTRY

- Clean floor mats, filters, and equipment inside, in an area that is connected to the sanitary sewer (e.g. mop sink or floor drain).
- Store, recycle, and properly dispose of cooking oil, grease, and meat fats in sealed containers. Never pour these down a sink, floor drain, or storm drain.

POST-CONSTRUCTION BMP O&M

Property owners are responsible for maintaining their storm water Post-Construction BMPs. Property owners should have an Operations & Maintenance (O&M) Plan onsite, which includes the inspection and maintenance requirements for BMPs that were installed to prevent pollutant discharges and to treat storm water runoff. Property owners are responsible for keeping a maintenance log of activities and may be required to provide a copy to HCDA and/or the City and County of Honolulu.

LARGE RAIN EVENTS

If a hurricane or flood warning has been issued, take the following steps before and after the rain and/or wind event to prevent and clean up any pollutant discharges.

- Before the storm:
 - Clear the drains, gutters, and flow path of any debris to prevent blockages and flooding.
 - Remove any inlet protection BMPs (re-install after the rain event has passed.)
 - Secure outdoor items or bring them indoors.
- After the storm:
 - Inspect property or business, and identify affected areas including vegetation, material/chemical storage areas, post-construction BMPs, and storm drains.
 - Remove any debris and mud left behind and clean up materials and chemical leaks or spills.
 - Clean up materials in street, gutters, and storm drain inlet openings.
 - Re-install the inlet protection BMP.
 - Sweep parking lots.
 - Implement erosion control measures (e.g. silt fences, erosion control blankets, or other ground cover materials) in areas with exposed soils. Replant vegetation.

POST CONSTRUCTION BMPs

Structural and non-structural BMPs that exist after construction is complete to protect water quality.



Source Control BMPs

BMPs that prevent pollutants from contacting storm water runoff and prevent their discharge into the MS4 or receiving waters.



LID Retention BMPs

Systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration, or use storm water.



LID Biofiltration BMPs

Removing pollutants from runoff by using living material to capture and absorb or biologically degrade pollutants.



Other Treatment BMPs

Removing pollutants from runoff by detention, settling, and filtration.