

STORMWATER BMPs: LIQUID MATERIALS LOADING, UNLOADING AND STORAGE

AFFECTED FACILITIES

These BMPs apply at all municipal and county facilities where liquid bulk materials (including but not limited to gasoline, diesel fuel, heating oil, lube oil, hydraulic oil, used oil and magnesium chloride) are loaded, unloaded or stored in aboveground storage tanks (ASTs), partially buried storage tanks, and underground storage tanks (USTs).

BACKGROUND

Bulk liquid materials pose a threat to storm water if a spill or release occurs and is washed away by rain or snow melt. A leak can contaminate storm water with organic chemicals and hydrocarbons. Since bulk liquids are normally handled in large volumes, the resulting pollution can be significant. It is the intent of this BMP to minimize the risks of spills and leaks when receiving, dispensing or storing bulk liquid materials.

BEST MANAGEMENT PRACTICES

- Park delivery and receiving vehicles in a designated area where leaks can be contained and where they will not enter a storm drain or ditch.
- Only transfer liquids only over paved (impervious) surfaces. Spills on soils are very difficult to clean up.
- Do not load or unload materials near a storm drain inlet unless it is equipped with a shut-off valve, drain cover or seal or other method to keep spills out of the storm sewer or the drain is at a higher elevation.
- If transfers must take place near a storm drain inlet, place a cover or mat over the inlet to protect it during transfer operations.
- Only load or unload a vehicle after it is immobilized (e.g., wheels are chocked) and (if flammable materials are involved) grounding cables are attached. These measures will prevent accidental movement and static build-up.
- At least one qualified person (e.g. the delivery driver) must attend any transfer operation for the entire duration of the loading or unloading operation.
- Place drip pans or buckets under all hose or pipe connections and leave them in-place until the loading or unloading operation is complete. Recycle or dispose of any leaked material properly.
- Keep drain valves in secondary containment around ASTs locked in the closed position at all times. Open for draining only under supervision. (See *Dewatering of Secondary Containment Structures BMPs* for details.)
- Keep loading and unloading areas neat and tidy. Sweep outdoor areas as needed. (See: *Good Housekeeping & Spill Prevention BMPs* for details.)

REQUIRED STRUCTURES AND EQUIPMENT

- Provide impervious secondary containment for all ASTs (except double-walled tanks) that is sufficient to contain the entire contents of the largest single tank plus an additional 4" of rainfall.

- Provide ASTs with protection from vehicle collisions such as: crash posts or concrete secondary containment structures.
- Provide all tanks with some form of overfill protection such as an automatic shut-off valve, a high level alarm or an overflow pipe to another tank. (*All of the above are required for gasoline tanks except high level alarm*)
- Make sure an adequate spill kit or locker with sufficient equipment and supplies is available near each work area where spills are possible.

INSTALLATIONS REQUIRED FOR NEW CONSTRUCTION OR RENOVATIONS

- Do not install storm drains near or at a lower elevation than material loading or unloading areas unless they are equipped with shut-off valves.
- All loading and unloading areas should be paved and provided with impervious secondary containment.
- Grade and slope material loading and unloading areas to avoid run-on to the area.
- Provide secondary containment for all new or rebuilt stationary liquid bulk storage vessels. Double wall tanks are preferred. Secondary containment structures made of concrete, steel, plastic or other impervious materials that are large enough to contain the contents of the largest, single container with 4 inches of freeboard remaining.

REQUIRED EMPLOYEE AND CONTRACTOR TRAINING

- Train all current employees who perform liquid bulk materials storage, loading or unloading on this BMP.
- Train all new hires and job transferees who will perform liquid bulk material storage, loading or unloading work on this BMP.
- Conduct refresher training on this BMP for all employees and contractors who perform liquid bulk materials storage, loading or unloading as needed.
- Train all employees who might be involved with draining secondary containment structures on proper dewatering. See *BMP: Dewatering of Secondary Containment Structures*.
- Contracts should stipulate that all contracted employees have been trained in proper stormwater management BMPs.

REQUIRED MAINTENANCE

- Check all equipment (pumps, valves, connections, hoses, pipelines, transfer lines, fuel islands, AST tank bodies, AST tank supports and foundations) monthly for leaks, seeps, cracks or damage. Repair or replace any faulty components promptly.
- Comply with all preventive maintenance conditions of the facility Spill Prevention Control and Countermeasure (SPCC) Plan, if applicable.
- Inspect secondary containment structures around ASTs at least yearly for cracks, damage or corrosion. Repair any faults as soon as possible

RECORDS

- Keep a written record of each time uncontaminated storm water was drained from secondary containment. Record the date, amount drained and confirmation that the water was uncontaminated.
- Keep records of any hazardous waste tests that were done on any spilled material within secondary containment areas.
- Keep a written record of all inspections and repairs done on all tanks.
- Keep records of employee and contractor trainings.
- Keep written records of all uncontrolled releases, how and when they occurred, and use for training purposes and future spill prevention.

REFERENCES

1. *Colorado's Phase II Municipal Guidance*, October 2001
2. *California Stormwater BMP Handbook*, January 2003
3. *Knoxville (TN) BMP Manual, Activities & Methods*, January 2001
4. *City of Tacoma: Surface Water Management Manual (Vol. IV Source Control BMPs)*, January 2003
5. *Municipal Facility Runoff Control Plan* (City of Lakewood, CO)
6. *Best Management Practices for Industrial Storm Water Pollution Control* (Santa Clara Valley, CA)