Stormwater Pollution Prevention

Light Industrial/Light Manufacturing

Trash/Trash Bins/Dumpsters

- Post "No Littering" signs and enforce anti-litter laws. Provide a sufficient number of litter receptacles for the facility. Clean out litter receptacles frequently and keep covered to prevent spillage.
- Keep dumpster areas clean. Recycle materials whenever possible. Use all of a product before disposing of the container. Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers. Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.

- Inspect dumpsters and trash bins weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating. Sweep and clean the storage area regularly and clean up spills immediately.
- If the dumpster area is paved, do not hose it down to a storm drain. Instead, collect the wash water and discharge it to the sewer if allowed by the local sewer authority. Use dry methods when possible (e.g., sweeping, use of absorbents). Prevent stormwater run-on from entering the dumpster area by enclosing it or building a berm around the area. Prevent waste materials from directly contacting rain. Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.

Landscaping

Where feasible, retain and/or plant native vegetation since it usually requires less maintenance than new vegetation. When planting or replanting consider using flowers, trees, shrubs, and groundcovers that have low water usage. Consider alternative landscaping techniques such as naturescaping and xeriscaping.

Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage at a permitted landfill or by composting. Do not dispose of gardening wastes in streets, waterways, or storm drainage systems. Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm and/or cover.

Irrigate slowly or pulse irrigate so the infiltration rate of the soil is not exceeded. Inspect irrigation system regularly for leaks and to ensure that excessive runoff is not occurring. If re-claimed water is used for irrigation, ensure that there is no runoff from the landscaped area(s). Use automatic timers to minimize runoff. Use popup sprinkler heads in areas with a lot of activity or where pipes may be broken. Consider the use of mechanisms that reduce water flow to broken sprinkler heads.

Use mechanical methods of vegetation removal such as hand weeding rather than applying herbicides. When conducting mechanical or manual weed control, avoid loosening the soil, which could lead to erosion.

If using pesticides, follow all federal, state, and local laws and regulations governing their use, storage, and disposal. Follow manufacturers' recommendations and label directions. When applicable, use less toxic pesticides that will do the job and avoid use of copper-based pesticides if possible. Do not apply pesticides if rain is expected or if wind speeds are above 5 mph. Do not mix or prepare pesticides for application near storm drains. Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the targeted pest. Do not apply any chemicals directly to surface waters and do not spray pesticides within 100 feet of open waters. If pesticide use is necessary within 100 feet of waters, application procedures must follow local regulatory guidance. Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques. Purchase only the amount of pesticide that you can reasonably use in a given time period. Careful soil mixing and layering techniques using a topsoil mix or composted organic material can be used as an effective measure to reduce weeds and the need for watering.

Caltrans

Stormwater Pollution Prevention

Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers. Follow manufacturers' recommendations and label directions. Employ techniques to minimize off-target application (e.g. spray drift) of fertilizer, including consideration of alternative application techniques. Calibrate fertilizer distributors to avoid excessive application. Periodically test soils for determining proper fertilizer use. Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface. Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water. Use slow release fertilizers whenever possible to minimize leaching.

Patio, Walkway, Driveway

- Use dry clean-up methods, such as a broom, mop or absorbent material for surface cleaning whenever possible. Do not sweep or blow trash or debris into the street or gutter. Avoid graffiti abatement activities during rain events and use the least toxic materials available (e.g. water based paints, gels or sprays for graffiti removal). Avoid using cleaning products that contain hazardous substances that can create hazardous waste.
- If water must be used for surface cleaning, use it sparingly. Never discharge washwater into the street, a ditch, or storm drain. Determine how you are going to capture the water and where you are going to discharge it before starting the wash job. Capture and collect the washwater and properly dispose of it (i.e., landscaped areas, private sewer system, sanitary sewer system).
- Provide regular training to employees and/or contractors regarding surface cleaning.

Parking

- Design lot to include semi-permeable hardscape. Allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices. Utilize sand filters or oleophilic collectors for oily waste in low concentrations. Clean out oil/water/sand separators regularly, especially after heavy storms.
- Clean parking facilities on a regular basis to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions. When cleaning heavy oily deposits, use absorbent materials on oily spots prior to sweeping or washing. Dispose of used absorbents appropriately. Inspect cleaning equipment/sweepers for leaks on a regular basis.

Chemical Storage

Ensure that any underground or aboveground storage tanks are designed and managed in accordance with applicable regulations, identified as a potential pollution source, and have secondary containment such as a berm or dike with an impervious surface.

Provide barriers such as posts or guardrails, where tanks are exposed, to prevent collision damage with vehicles. Provide secure storage to prevent vandalism-caused contamination.

Place tight-fitting lids on all containers. Enclose or cover the containers where they are stored. Raise the containers off the ground by use of pallet or similar method, with provisions for spill control. Contain the material in such a manner that if the container leaks or spills, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters or groundwater.

Place drip pans or absorbent materials beneath all mounted container taps, and at all potential drip and spill locations during filling and unloading of containers. Any collected liquids or soiled absorbent materials must be reused/recycled or properly disposed.

Inspect storage areas regularly for leaks or spills. Conduct routine inspections and check for external corrosion of material containers. Also check for structural failure, spills and overfills due to operator error, or failure of piping system. Check for leaks or spills during pumping of liquids or gases from truck to a storage facility or vice versa. Visually inspect new tank or container installations for loose fittings, poor welding, and improper or poorly fitted gaskets. Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system. Replace containers that are leaking, corroded, or otherwise deteriorating with ones in good condition. If the liquid chemicals are corrosive, containers made of compatible materials must be used instead of metal drums. New or secondary containers must be labeled with the product name and hazards.

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Stormwater Pollution Prevention

Train employees in proper storage measures. Train employee and contractors in proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.

Outdoor Storage

- Store materials indoors, if feasible. Designate a secure material storage area that is paved with Portland cement concrete, free of cracks and gaps, and impervious in order to contain leaks and spills. Protect materials stored outside from rainfall and wind dispersal by covering them with a fixed roof or a temporary waterproof covering made of polyethylene, polypropylene, or hypalon. Keep covers in place at all times when work is not occurring. If areas are so large that they cannot feasibly be covered and contained, implement erosion control practices at the perimeter of the area and at catch basins to prevent dispersion of the stockpiled material.

- Protect materials stored outside from stormwater runon. Construct a berm around the perimeter of the material storage area to prevent the runon of uncontaminated stormwater from adjacent areas, as well as storm water runoff from the storage area.

- All materials stored outside should have a secondary containment system. Surround storage tanks with a berm or other secondary containment system. Slope the area inside the berm to a containment drain, if possible. Drain liquids to the sanitary sewer if available. Pass accumulated stormwater in petroleum storage areas through an oil/water separator. Paved areas should be sloped in a manner that minimizes pooling of water on the site. A minimum slope of 1.5% is recommended.

- Do not store chemicals, drums, or bagged or cardboard boxed materials directly on the ground. Place these items in secondary containers. Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all the containers or 110 percent of the volume of the largest container, whichever is greater. Keep chemicals in their original containers, if feasible, and keep them well labeled. Keep outdoor storage containers in good condition. Keep storage areas clean and dry. Sweep and maintain routes to and from storage areas. Conduct regular inspections of storage areas.

Outdoor Loading and Unloading

Develop an operations plan that describes procedures for loading and/or unloading. Load/unload only at designated loading areas. Pave loading areas with concrete instead of asphalt, if possible.

Conduct loading and unloading in dry weather if possible. Have employees load and unload all materials and equipment in covered areas such as building overhangs at loading docks, if feasible. Cover designated loading/unloading areas to reduce exposure of materials to rain. Consider placing a seal or door skirt between delivery vehicles and building to prevent exposure to rain.

Design loading/unloading area to prevent stormwater run-on, which would include grading or berming the area, and positioning roof downspouts so they direct stormwater away from the loading/unloading areas. Grade and/or berm the loading/unloading area to a drain that is connected to a form of containment.

Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections. Several drip pans should be stored in a covered location near the liquid transfer area so that they are always available, yet protected from precipitation when not in use. Drip pans can be made specifically for railroad tracks. Drip pans must be cleaned periodically, and drip collected materials must be disposed of properly.

Sweep up and dispose of any loose debris remaining after loading/unloading is completed.

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Stormwater Pollution Prevention

Outdoor Maintenance and Repairs/Painting

Properly collect and dispose of water if pressure washing buildings, rooftops, and other large objects. If pressure washing where the surrounding area is paved, use a water collection device that enables collection of wash water and associated solids. Use a sump pump, wet vacuum or similarly effective device to collect the runoff and loose materials. Dispose of the collected runoff and solids properly. If pressure washing on a landscaped area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the landscaping and not drain to pavement.

Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain. Store toxic material under cover when not in use and during precipitation events. Switch to non-toxic chemicals for maintenance when possible. If cleaning agents are used, select biodegradable products whenever feasible. Consider using a waterless and non-toxic chemical cleaning method for graffiti removal (e.g. gels or spray compounds). Use chemicals that can be recycled. Buy recycled products to the maximum extent practicable

Use water-based paints whenever possible. They are less toxic than oil-based paints and easier to clean up. Look for products labeled “latex” or “cleans with water.” Develop paint handling procedures for proper use, storage, and disposal of paints. Transport paint and materials to and from job sites in containers with secure lids and tied down to the transport vehicle. Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint containers. 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.

Transfer and load paint away from storm drain inlets. When there is significant risk of a spill reaching storm drains or if sand blasting is used to remove paint, cover nearby storm drain inlets prior to starting painting and remove covers when job is complete. Use a ground cloth to collect the chips if painting requires scraping or sand blasting of the existing surface. Dispose the residue properly.

Cover or enclose painting operations properly to avoid drift. Clean the application equipment in a sink that is connected to the sanitary sewer if using water based paints. Capture all cleanup-water and dispose of properly. Cover and store leftover paints if they are to be kept for the next job properly, or dispose properly.

Regularly train employees on appropriate Best Management Practices implementation, storm water discharge prohibitions, and wastewater discharge requirements. Train employees on proper spill containment and cleanup.

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