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Taco Time

Pollution Source Control Plan

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Best Management Practices Applicable to this project

The proposed site use is a restaurant. Based on the 2019 DOE Stormwater Management Manual for Western Washington, Volume IV, the following BMP's are anticipated to be necessary to control pollution of stormwater runoff.

- S411 BMPs for Landscaping and Lawn/Vegetation Management
- S417 BMPs for Maintenance of Stormwater Drainage and Treatment Systems
- S427 BMPS for Storage of Liquid, Food Waste, or Dangerous Waste Containers
- S450 BMPs for Irrigation

Add applicable BMPs from Section IV-1 Source Control BMPs Applicable to All Sites. [Source Control Plan, Pg 2]

Add S421 for Parking lot. It gives direction for when washing parking lots. [Source Control Plan, Pg 2]

Add S424 for roof/building drains, S442 for storm drain labeling, S447 for Roof Vents. [Source Control Plan, Pg 2]

can cause air pollution include grain dust, sawdust, coal, gravel, crushed rock, cement, and boiler fly ash. Air emissions can contaminate stormwater. The objective of this BMP is to reduce the stormwater pollutants caused by dust generation and control.

Pollutant Control Approach: Prevent dust generation and emissions where feasible, regularly clean-up dust that can contaminate stormwater, and convey dust contaminated stormwater to proper treatment.

Applicable BMPs:

- Clean, as needed, powder material handling equipment and vehicles.
- Regularly sweep dust accumulation areas that can contaminate stormwater. Conduct sweeping using vacuum filter equipment to minimize dust generation and to ensure optimal dust removal.
- Use dust filtration/collection systems such as baghouse filters, cyclone separators, etc. to control vented dust emissions that could contaminate stormwater. Control of zinc dusts in rubber production is one example.
- Maintain on-site controls to prevent vehicle track-out.
- Maintain dust collection devices on a regular basis.

Recommended BMPs:

- In manufacturing operations, train employees to handle powders carefully to prevent generation of dust.
- Use water spray to flush dust accumulations to sanitary sewers where allowed by the local sewer authority or to other appropriate treatment system.
- Use approved dust suppressants such as those listed in *Methods for Dust Control* ([Ecology, 2016b](#)). Application of some products may not be appropriate in close proximity to receiving waters or conveyances close to receiving waters. For more information check with Ecology or the local jurisdiction.

Recommended Treatment BMPs

Install sedimentation basins, wet ponds, wet vaults, catch basin filters, vegetated filter strips, or equivalent sediment removal BMPs.

S411 BMPs for Landscaping and Lawn / Vegetation Management

Description of Pollutant Sources: Landscaping can include grading, soil transfer, vegetation planting, and vegetation removal. Examples include weed control on golf course lawns, access roads, and utility corridors and during landscaping; and residential lawn/plant care. Proper management of vegetation can minimize excess nutrients and pesticides.

Pollutant Control Approach: Maintain appropriate vegetation to control erosion and the discharge of stormwater pollutants. Prevent debris contamination of stormwater. Where practicable, grow plant species appropriate for the site, or adjust the soil properties of the site to grow desired plant species.

Applicable BMPs:

- Install engineered soil/landscape systems to improve the infiltration and regulation of stormwater in landscaped areas.
- Select the right plants for the planting location based on proposed use, available maintenance, soil conditions, sun exposure, water availability, height, sight factors, and space available.
- Ensure that plants selected for planting are not on the noxious weed list. For example, butterfly bush often gets planted as an ornamental but is actually on the noxious weed list.

The Washington State Noxious Weed List can be found at the following webpage:

<https://www.nwcb.wa.gov/printable-noxious-weed-list>

- Do not dispose of collected vegetation into waterways or storm sewer systems.
- Do not blow vegetation or other debris into the drainage system.
- Dispose of collected vegetation such as grass clippings, leaves, sticks by composting or recycling.
- Remove, bag, and dispose of class A & B noxious weeds in the garbage immediately.
- Do not compost noxious weeds as it may lead to spreading through seed or fragment if the composting process is not hot enough.
- Use manual and/or mechanical methods of vegetation removal (pincer-type weeding tools, flame weeders, or hot water weeders as appropriate) rather than applying herbicides, where practical.
- Use at least an eight-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium.
 - Organic matter is the least water-soluble form of nutrients that can be added to the soil. Composted organic matter generally releases only between 2 and 10 percent of its total nitrogen annually, and this release corresponds closely to the plant growth cycle. Return natural plant debris and mulch to the soil, to continue recycling nutrients indefinitely.
- Select the appropriate turfgrass mixture for the climate and soil type.
 - Certain tall fescues and rye grasses resist insect attack because the symbiotic endophytic fungi found naturally in their tissues repel or kill common leaf and stem-eating lawn insects.

- The fungus causes no known adverse effects to the host plant or to humans.
 - Tall fescues and rye grasses do not repel root-feeding lawn pests such as Crane Fly larvae.
 - Tall fescues and rye grasses are toxic to ruminants such as cattle and sheep
- Endophytic grasses are commercially available; use them in areas such as parks or golf courses where grazing does not occur.
- Local agricultural or gardening resources such as Washington State University Extension office can offer advice on which types of grass are best suited to the area and soil type.
- Use the following seeding and planting BMPs, or equivalent BMPs, to obtain information on grass mixtures, temporary and permanent seeding procedures, maintenance of a recently planted area, and fertilizer application rates: [BMP C120: Temporary and Permanent Seeding](#), [BMP C121: Mulching](#), [BMP C123: Plastic Covering](#), and [BMP C124: Sodding](#).
- Adjusting the soil properties of the subject site can assist in selection of desired plant species. Consult a soil restoration specialist for site-specific conditions.

Recommended Additional BMPs:

- Conduct mulch-mowing whenever practicable.
- Use native plants in landscaping. Native plants do not require extensive fertilizer or pesticide applications. Native plants may also require less watering.
- Use mulch or other erosion control measures on soils exposed for more than one week during the dry season (May 1 to September 30) or two days during the rainy season (October 1 to April 30).
- Till a topsoil mix or composted organic material into the soil to create a well-mixed transition layer that encourages deeper root systems and drought-resistant plants.
- Apply an annual topdressing application of 3/8" compost. Amending existing landscapes and turf systems by increasing the percent organic matter and depth of topsoil can:
 - Substantially improve the permeability of the soil.
 - Increase the disease and drought resistance of the vegetation.
 - Reduces the demand for fertilizers and pesticides.
- Disinfect gardening tools after pruning diseased plants to prevent the spread of disease.
- Prune trees and shrubs in a manner appropriate for each species.
- If specific plants have a high mortality rate, assess the cause and replace with another more appropriate species.
- When working around and below mature trees, follow the most current American National Standards Institute (ANSI) ANSI A300 standards (see

http://www.tcia.org/TCIA/BUSINESS/ANSI_A300_Standards_/TCIA/BUSINESS/A300_Standards/A300_Standards.aspx?hkey=202ff566-4364-4686-b7c1-2a365af59669) and International Society of Arboriculture BMPs to the extent practicable (e.g., take care to minimize any damage to tree roots and avoid compaction of soil).

- Monitor tree support systems (stakes, guys, etc.).
 - Repair and adjust as needed to provide support and prevent tree damage.
 - Remove tree supports after one growing season or maximum of 1 year.
 - Backfill stake holes after removal.
- When continued, regular pruning (more than one time during the growing season) is required to maintain visual sight lines for safety or clearance along a walk or drive, consider relocating the plant to a more appropriate location.
- Make reasonable attempts to remove and dispose of class C noxious weeds.
- Re-seed bare turf areas until the vegetation fully covers the ground surface.
- Watch for and respond to new occurrences of especially aggressive weeds such as Himalayan blackberry, Japanese knotweed, morning glory, English ivy, and reed canary grass to avoid invasions.
- Plant and protect trees per [BMP T5.16: Tree Retention and Tree Planting](#).
- Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Conduct aeration while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¾-inch deep.
- Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.
 - Mowing is a stress-creating activity for turfgrass.
 - Grass decreases its productivity when mowed too short and there is less growth of roots and rhizomes. The turf becomes less tolerant of environmental stresses, more disease prone and more reliant on outside means such as pesticides, fertilizers, and irrigation to remain healthy.

Additional BMP Information:

- King County's *Best Management Practices for Golf Course Development and Operation* ([King County, 1993](#)) has additional BMPs for Turfgrass Maintenance and Operation.
- King County, Seattle Public Utilities, and the Saving Water Partnership have created the following natural lawn and garden care resources that include guidance on building healthy soil with compost and mulch, selecting appropriate plants, watering, using alternatives to pesticides, and implementing natural lawn care techniques.

- *Natural Yard Care - Five steps to make your piece of the planet a healthier place to live* ([King County and SPU, 2008](#))
- *The Natural Lawn & Garden Series: Smart Watering* ([Saving Water Partnership, 2006](#))
- *Natural Lawn Care for Western Washington* ([Saving Water Partnership, 2007](#))
- *The Natural Lawn & Garden Series: Growing Healthy Soil; Choosing the Right Plants; and Natural Pest, Weed and Disease Control* ([Saving Water Partnership, 2012](#))
- The International Society of Arboriculture (ISA) is a group that promotes the professional practice of arboriculture and fosters a greater worldwide awareness of the benefits of trees through research, technology, and education. ISA standards used for managing trees, shrubs, and other woody plants are the American National Standards Institute (ANSI) A300 standards. The ANSI A300 standards are voluntary industry consensus standards developed by the Tree Care Industry Association (TCIA) and written by the Accredited Standards Committee (ASC). The ANSI standards can be found on the ISA website: www.isa-arbor.com/education/publications/index.aspx
- Washington State University's *Gardening in Washington State* website at <http://gardening.wsu.edu> contains Washington State specific information about vegetation management based on the type of landscape.
- See the *Pacific Northwest Plant Disease Management Handbook* ([Pscheidt and Ocamb, 2016](#)) for information on disease recognition and for additional resources.

S425 BMPs for Soil Erosion and Sediment Control at Industrial Sites

Description of Pollutant Sources: Industrial activities on soil areas; exposed and disturbed soils; steep grading; etc. can be sources of sediments that can contaminate stormwater runoff.

Pollutant Control Approach: Limit the exposure of erodible soil, stabilize, or cover erodible soil where necessary to prevent erosion, and/or provide treatment for stormwater contaminated with TSS caused by eroded soil.

Applicable BMPs:

- Limit the exposure of erodible soil.
- Stabilize entrances/exits to prevent track-out. See [BMP C105: Stabilized Construction Access](#).
- Stabilize or cover erodible soil to prevent erosion. Cover practice options include:
 - Use vegetative cover such as grass, trees, shrubs, on erodible soil areas.
 - Cover exposed areas with mats such as clear plastic, jute, synthetic fiber. See [BMP C122: Nets and Blankets](#) and [BMP C123: Plastic Covering](#).

intercepting surface drainage to retain their diversion shape and capability.

- Use temporary erosion and sediment control measures or re-vegetate as necessary to prevent erosion during ditch reshaping.
- Do not leave ditch cleanings on the roadway surfaces. Sweep, collect, and dispose of dirt and debris remaining on the pavement at the completion of ditch cleaning operations as described below:
 - Consider screening roadside ditch cleanings, not contaminated by spills or other releases and not associated with a stormwater treatment system such as a bioswale, to remove litter. Separate screenings into soil and vegetative matter (leaves, grass, needles, branches, etc.) categories. Compost or dispose of the vegetative matter in a municipal waste landfill. Consult with the jurisdictional health department to discuss use or disposal options for the soil portion. For more information, see [Appendix IV-B: Management of Street Waste Solids and Liquids](#).
 - Roadside ditch cleanings contaminated by spills or other releases known or suspected to contain dangerous waste must be handled following the Dangerous Waste Regulations ([Chapter 173 303 WAC](#)). If testing determines materials are not dangerous waste but contaminants are present, consult with the jurisdictional health department for disposal options.
- Examine culverts on a regular basis for scour or sedimentation at the inlet and outlet, and repair as necessary. Give priority to those culverts conveying perennial and/or salmon-bearing streams and culverts near streams in areas of high sediment load, such as those near subdivisions during construction. Maintain trash racks to avoid damage, blockage, or erosion of culverts.

Recommended Treatment BMPs:

Install biofiltration swales and filter strips (see [V-7 Biofiltration BMPs](#)) to treat roadside runoff wherever practicable and use engineered topsoils wherever necessary to maintain adequate vegetation. These systems can improve infiltration and stormwater pollutant control upstream of roadside ditches.

S417 BMPs for Maintenance of Stormwater Drainage and Treatment Systems

Description of Pollutant Sources: Facilities include roadside catch basins on arterials and within residential areas, conveyance systems, detention facilities such as ponds and vaults, oil/water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in [Volume V](#). Oil and grease, hydrocarbons, debris, heavy metals, sediments and contaminated water are found in catch basins, oil and water separators, settling basins, etc.

Pollutant Control Approach: Provide maintenance and cleaning of debris, sediments, and other pollutants from stormwater collection, conveyance, and treatment systems to maintain proper operation.

Applicable Operational BMPs:

Maintain stormwater treatment facilities per the operations and maintenance (O&M) procedures presented in [Appendix V-A: BMP Maintenance Tables](#) in addition to the following BMPs:

- Inspect and clean treatment BMPs, conveyance systems, and catch basins as needed, and determine necessary O&M improvements.
- Promptly repair any deterioration threatening the structural integrity of stormwater facilities. These include replacement of clean-out gates, catch basin lids, and rock in emergency spillways.
- Ensure adequacy of storm sewer capacities and prevent heavy sediment discharges to the sewer system.
- Regularly remove debris and sludge from BMPs used for peak-rate control, treatment, etc. and discharge to a sanitary sewer if approved by the sewer authority, or truck to an appropriate local or state government approved disposal site.
- Clean catch basins when the depth of deposits reaches 60 percent of the sump depth as measured from the bottom of basin to the invert of the lowest pipe into or out of the basin. However, in no case should there be less than six inches clearance from the debris surface to the invert of the lowest pipe. Some catch basins (for example, WSDOT's *Catch Basin Type 1L* ([WSDOT, 2011](#))) may have as little as 12 inches sediment storage below the invert. These catch basins need frequent inspection and cleaning to prevent scouring. Where these catch basins are part of a stormwater collection and treatment system, the system owner/operator may choose to concentrate maintenance efforts on downstream control devices as part of a systems approach.
- Properly dispose of all solids, polluted material, and stagnant water collected through system cleaning. Do not decant water back into the drainage system from eductor trucks or vacuum equipment since there may be residual contaminants in the cleaning equipment. Do not jet material downstream into the public drainage system.
- Clean woody debris in a catch basin as frequently as needed to ensure proper operation of the catch basin.
- Post warning signs; "Dump No Waste - Drains to Ground Water," "Streams," "Lakes," or emboss on or adjacent to all storm drain inlets where possible.
- Disposal of sediments and liquids from the catch basins must comply with [Appendix IV-B: Management of Street Waste Solids and Liquids](#).

S421 BMPs for Parking and Storage of Vehicles and Equipment

Description of Pollutant Sources: Public and commercial parking lots such as retail store, fleet vehicle (including rent-a-car lots and car dealerships), equipment sale and rental parking lots, and

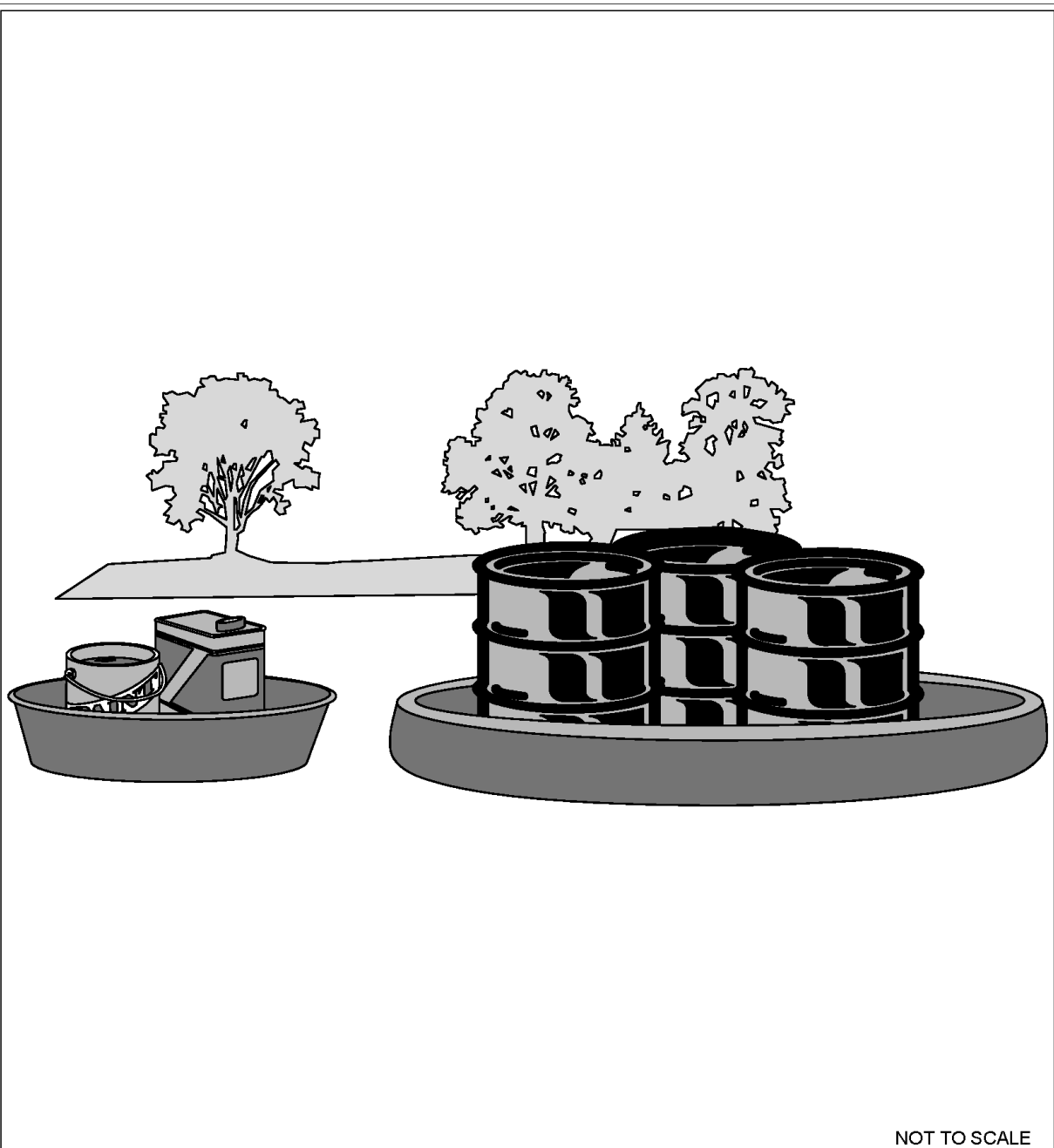
IV-5 Storage and Stockpiling Source Control BMPs

S427 BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers

Description of Pollutant Sources: Steel and plastic drums with volumetric capacities of 55 gallons or less are typically used at industrial facilities for container storage of liquids and powders. The BMPs specified below apply to container(s) located outside a building. Use these BMPs when temporarily storing potential pollution generating materials or wastes. These BMPs do not apply when Ecology has permitted the business to store the wastes (see [Standards for Solid Waste Containers](#) in [I-2.15 Other Requirements](#)). Leaks and spills of pollutant materials during handling and storage are the primary sources of pollutants. Oil and grease, acid/alkali pH, BOD, COD are potential pollutant constituents.

Pollutant Control Approach: Store containers in impervious containment under a roof, or other appropriate cover, or in a building. For storage areas on-site for less than 30 days, consider using a portable temporary secondary system like that shown in [Figure IV-5.1: Secondary Containment System](#) in lieu of a permanent system as described above.

Figure IV-5.1: Secondary Containment System



Secondary Containment System

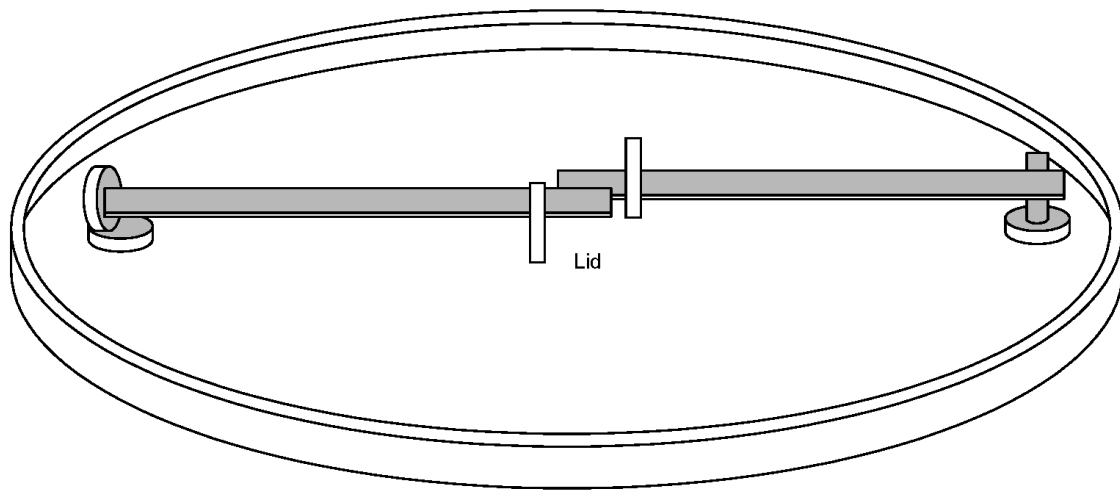
Revised June 2016

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Applicable Operational BMPs:

- Place tight-fitting lids on all containers.
- Label all containers appropriately. Store containers so that the labels are clearly visible..
- Place drip pans beneath all mounted container taps and at all potential drip and spill locations during filling and unloading of containers.
- Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks/spills. Replace containers, and replace and tighten bungs in drums as needed.
- Empty drums containing residues should be stored to prevent stormwater from entering drum closures. Cover or tilt drums to prevent stormwater from accumulating on the top of empty drums and around drum closures.
- Store containers that do not contain free liquids in a designated sloped area with the containers elevated or otherwise protected from stormwater run-on. Comply with local fire code.
- Secure drums when stored in an area where unauthorized persons may gain access in a manner that prevents accidental spillage, pilferage, or any unauthorized use (see [Figure IV-5.2: Locking System for Drum Lid](#)).

Figure IV-5.2: Locking System for Drum Lid



NOT TO SCALE



Locking System for Drum Lid

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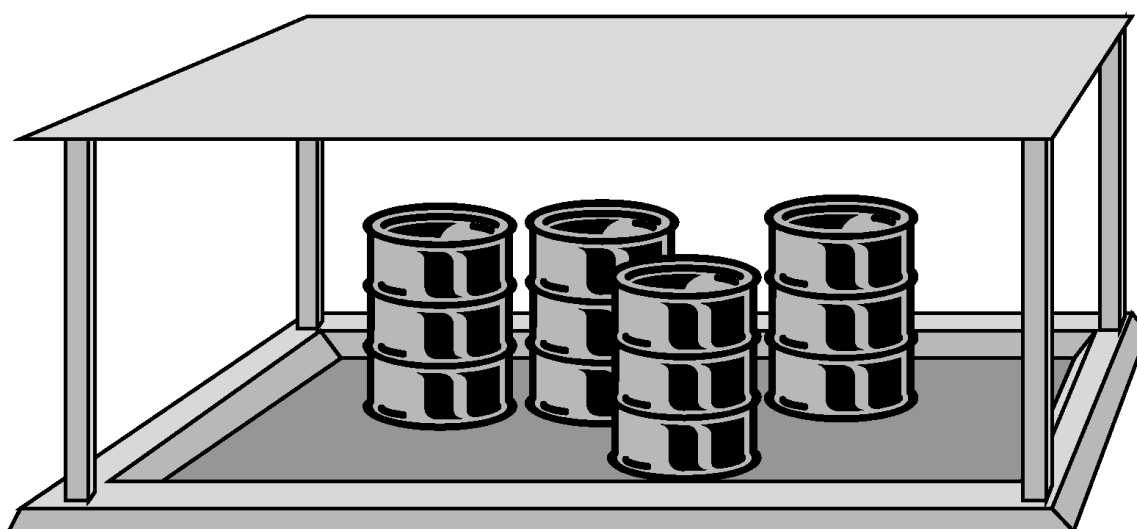
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- If the material is a Dangerous Waste, the business owner must comply with any additional Ecology requirements as specified in [Ecology Requirements for Generators of Dangerous Wastes](#) within [I-2.15 Other Requirements](#).
- Storage of flammable, ignitable, and reactive chemicals and materials must comply with the stricter of local zoning codes, local fire codes, the Uniform Fire Code (UFC), UFC standards, or the National Electric Code
- Have spill kits or cleanup materials near container storage areas.
- Clean up all spills immediately.
- Cover dumpsters, or keep them under cover such as a lean-to, to prevent the entry of storm-water. Keep dumpster lids closed.
- Replace or repair leaking garbage dumpsters, or install waterproof liners.
- Drain dumpsters and/or dumpster pads to sanitary sewer where approved by the sewer authority.
- When collection trucks directly pick up roll-containers, ensure a filet is on both sides of the curb to facilitate moving the dumpster.

Applicable Structural Source Control BMPs:

- Keep containers with Dangerous Waste, food waste, or other potential pollutant liquids inside a building unless this is not feasible due to site constraints or Uniform/International Fire Code requirements.
- Store containers in a designated area, which is covered, bermed or diked, paved and impervious in order to contain leaks and spills (see [Figure IV-5.3: Covered and Bermed Containment Area](#)). Slope the secondary containment to drain into a dead-end sump for the collection of leaks and small spills.
- For liquid materials, surround the containers with a dike as illustrated in [Figure IV-5.3: Covered and Bermed Containment Area](#). The dike must be of sufficient height to provide a volume of either 10 percent of the total enclosed container volume or 110 percent of the volume contained in the largest container, whichever is greater.

Figure IV-5.3: Covered and Bermed Containment Area



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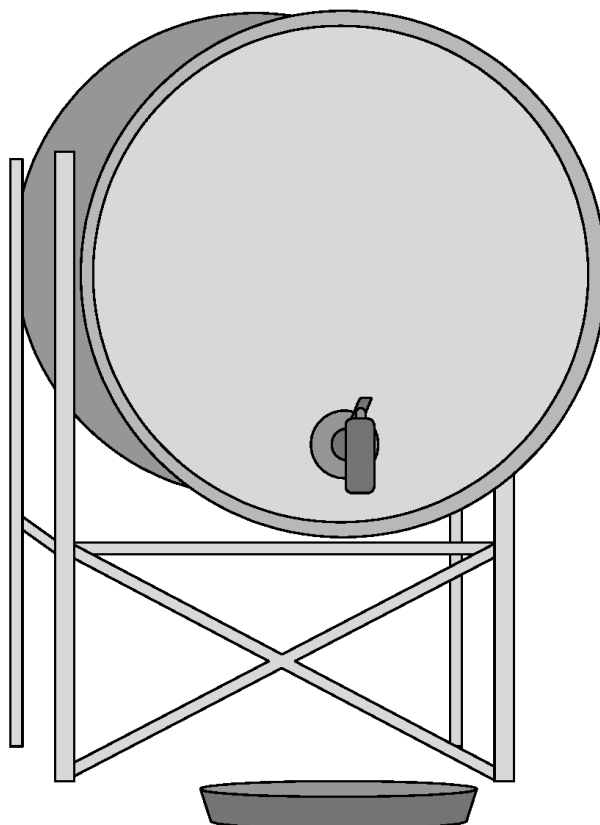
Covered and Bermed Containment Area

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- Where material is temporarily stored in drums, use a containment system as illustrated, in lieu of the above system (see [Figure IV-5.1: Secondary Containment System](#)).
- Place containers mounted for direct removal of a liquid chemical for use by employees inside a containment area as described above. Use a drip pan during liquid transfer (see [Figure IV-5.4: Mounted Container - With Drip Pan](#)).

Figure IV-5.4: Mounted Container - With Drip Pan



*Note that the secondary containment is not shown in this figure

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Mounted Container - with Drip Pan

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the storage area is not under a roof to protect it from rainfall, manage runoff by directing it to a stormwater treatment area. ([FDACS, 2014](#))

S450 BMPs for Irrigation

Description of Pollutant Sources: Irrigation consists of discharges from irrigation water lines, landscape irrigation, and lawn or garden watering. Excessive watering can lead to discharges of chlorinated potable water runoff into drainage systems; it can also cause erosion; and negatively affect plant health. Improper irrigation can encourage pest problems, leach nutrients, and make a lawn completely dependent on artificial watering. Mosquito breeding habitats may form through excessive watering.

Pollutant Control Approach: Limit the amount and location of watering to prevent runoff and discharges to drainage systems.

Applicable Operational BMPs:

- Irrigate with the minimum amount of water needed. Never water at rates that exceed the infiltration rate of the soil.
- Maintain all irrigation systems so that irrigation water is applied evenly and where it is needed.
- Ensure sprinkler systems do not overspray vegetated areas resulting in excess water discharging into the drainage system.
- Inspect irrigated areas for excess watering. Adjust watering times and schedules to ensure that the appropriate amount of water is being used to minimize runoff. Consider factors such as soil structure, grade, time of year, and type of plant material in determining the proper amounts of water for a specific area.
- Inspect irrigated areas regularly for signs of erosion and / or discharge.
- Place sprinkler systems appropriately so that water is not being sprayed on impervious surfaces instead of vegetation.
- Repair broken or leaking sprinkler nozzles as soon as possible.
- Appropriately irrigate lawns based on the species planted, the available water holding capacity of the soil, and the efficiency of the irrigation system.
 - The depth from which a plant normally extracts water depends on the rooting depth of the plant. Appropriately irrigated lawn grasses normally root in the top 6 to 12 inches of soil; lawns irrigated on a daily basis often root only in the top 1 inch of soil.
- Do not irrigate plants during or immediately after fertilizer application. The longer the period between fertilizer application and irrigation, the less fertilizer runoff occurs.
- Do not irrigate plants during or immediately after pesticide application (unless the pesticide label directs such timing).
- Reduce frequency and / or intensity of watering as appropriate for the wet season (October 1 to April 30).

- Place irrigation systems to ensure that plants receive water where they need it. For example, do not place irrigation systems downgradient of plant's root zones on hillsides.

Recommended Operational BMPs:

- Add a tree bag or slow-release watering device (e.g., bucket with a perforated bottom) for watering newly installed trees when irrigation system is not present.
- Water deeply, but infrequently, so that the top 6 to 12 inches of the root zone is moist.
- Use soaker hoses or spot water with a shower type wand when an irrigation system is not present.
 - Pulse water to enhance soil absorption, when feasible.
 - Pre-moisten soil to break surface tension of dry or hydrophobic soils/mulch, followed by several more passes. With this method, each pass increases soil absorption and allows more water to infiltrate prior to runoff.
- Identify trigger mechanisms for drought-stress (e.g., leaf wilt, leaf senescence, etc.) of different species and water immediately after initial signs of stress appear.
- Water during drought conditions or more often if necessary to maintain plant cover.
- Adjust irrigation frequency / intensity as appropriate after plant establishment.
- Annually inspect irrigation systems to ensure:
 - That there are no blockages of sprayer nozzles.
 - Sprayer nozzles are rotating as appropriate.
 - Sprayer systems are still aligned with the plant locations and root zones.
- Consult with the local water utility, Conservation District, or Cooperative Extension office to help determine optimum irrigation practices.
- Do not use chemigation and fertigation in irrigation systems. This will help avoid over application of pesticides and fertilizers.