Chapter 9 – Source Control for Developed Sites

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Chapter 9 – Source Control for Developed Sites

9.1 Introduction

9.1.1 What is the Purpose of this Chapter?

Minimum Requirement #3, Source Control of Pollution, of the Western Washington National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit states the following:

"All known, available and reasonable source control BMPs [best management practices] must be required for all projects approved by the [City of Lacey]. Source control BMPs must be selected in accordance with [Volume III], and designed and maintained in accordance with Volume IV of the [Department of Ecology's] Stormwater Management Manual for Western Washington [2019 Ecology Manual]."

This chapter is designed to help businesses, homeowners, and public agencies in the City of Lacey (City) implement source control BMPs to prevent pollutants from contaminating stormwater runoff and entering our lakes, streams, and Puget Sound. The purpose of source control BMPs is to prevent stormwater from coming in contact with pollutants *post*development, at the pollutant source. Source control can be a cost-effective means of reducing pollutants in stormwater, and therefore must be a primary consideration for all projects.

9.1.2 Ecology's *Stormwater Management Manual for Western Washington Standards*, Adopted

Source control BMPs must be selected from, designed, and maintained in accordance with Volumes III and IV of the 2019 Ecology Manual. The City hereby adopts the following requirements of Volumes III and IV of the 2019 Ecology Manual:

- Volume III, Section 1.1 of the 2019 Ecology Manual describes the process for selecting source control BMPs.
- Volume IV contains the following sections, which provide applicable (mandatory) and recommended BMPs grouped by types of activities that have the potential to produce pollution.
    - Section 1: Source Control BMPs Applicable to All Sites
    - Section 2: Cleaning or Washing Source Control BMPs
    - Section 3: Roads, Ditches, and Parking Lot Source Control BMPs
    - Section 4: Soil Erosion, Sediment Control, and Landscaping Source Control BMPs

- Section 5: Storage and Stockpiling Source Control BMPs
- Section 6: Transfer of Liquid or Solid Materials Source Control BMPs
- Section 7: Other Source Control BMPs

Volume IV of the 2019 Ecology Manual also includes the following appendices, hereby adopted by the City in accordance with the NPDES Phase II Municipal Stormwater Permit requirements:

- Appendix IV-A: Urban Land Uses and Pollutant Generating Sources

  This appendix identifies pollutant-generating sources at various land uses, i.e., manufacturing, transportation, communication, wholesale, retail, and service land uses.

- Appendix IV-B: Management of Street Waste Solids and Liquids

  This appendix addresses what to do with waste generated from stormwater maintenance activities such as street sweeping, catch basin cleaning, and flow control and runoff treatment BMP maintenance.

For the purposes of this chapter, the following references in Volume IV of the 2019 Ecology Manual shall be revised as follows:

- "local jurisdiction" and "local government" shall refer to "the City of Lacey"
- "local health department" shall refer to the "Thurston County Public Health and Social Services Department"
- "local sewer authority" shall refer to the "City of Lacey Wastewater Utility," or the "LOTT Clean Water Alliance." The City manages the collection and conveyance of wastewater to the LOTT Clean Water Alliance Wastewater Treatment Plant. Note that "local sewer authority" may apply to either or both entity(ies), depending on the nature of the discharge and requirement.
- "local permitting authority" shall refer to the "City of Lacey Department of Community and Economic Development"
- "local water utility" shall refer to the "City of Lacey Water Utility"
- "local Conservation District" shall refer to the "Thurston Conservation District"
- "local fire department" shall refer to "Lacey Fire District 3"

The remaining sections of this chapter are provided as City-specific guidance.

9.1.3 How Does this Chapter Apply to Businesses and Properties?

Because of the provisions of the federal Clean Water Act and Coastal Zone Management Act, as well as the NPDES permit, the implementation of BMPs applies to all businesses, residences, and public agencies in the City. It includes all permanent and temporary activities at public facilities, commercial and industrial facilities, agriculture and livestock farms, and residential dwellings. Anyone involved in a particular activity, whether as an employee, supervisor, manager, landlord, tenant, or homeowner, must take part in implementing appropriate BMPs.

Every person/business in the City of Lacey is required to use BMPs. Select BMPs from this chapter and Volume IV of the 2019 Ecology Manual. The BMPs required by this chapter and Volume IV of the 2019 Ecology Manual include Applicable (mandatory) and Recommended BMPs. Please note that in some instances there are required BMPs that are mandated by various federal, state, or City laws. Recommended BMPs are encouraged to further protect our water quality. For instance, if only one BMP is mandatory, it can be coupled with another recommended BMP to prevent pollution from ever getting into stormwater in the first place.

Operators under Ecology's Industrial Stormwater General Permit (ISGP), Boatyard General Permit, or Sand and Gravel General Permit should use this chapter and Volume IV of the 2019 Ecology Manual to identify required and suggested operational and structural source control BMPs for inclusion in their Stormwater Pollution Prevention Plans (SWPPPs). Operators of commercial, industrial, and multifamily properties not under an Ecology permit shall use this chapter and Volume IV of the 2019 Ecology Manual in developing their SWPPPs.

Runoff treatment may also be required for certain types of businesses, based on the information provided in in Chapter 2, Section 2.2.6 (Core Requirement #6: Runoff Treatment) and in Chapter 8. Chapter 8 contains detailed information about runoff treatment BMPs.

Refer to the Lacey Municipal Code (LMC), and Volume I, Sections 2.4, 2.6, 2.7, and 2.15 of the 2019 Ecology Manual for information on other federal, state, or City stormwater-related programs and requirements. Businesses already implementing BMPs in accordance with these requirements usually do not have to implement additional BMPs. Businesses required to obtain a general or individual NPDES permit for stormwater discharges must comply with the requirements of that permit and are exempt from implementing additional BMPs.

If you are covered under the related requirements in the LMC, the City assumes that you are implementing the appropriate BMPs. If the City finds that you have not implemented your BMPs, or that the BMPs that you have implemented are not effectively addressing the discharge of contaminants, then you may be required to implement additional BMPs to meet requirements. *Everyone* must implement BMPs, but how each business goes about it, and through which government program, may differ from business to business.

9.2 Source Control BMP Selection

All Applicable (mandatory) BMPs listed in Volume IV, Section 1 of the 2019 Ecology Manual for the activities present are required by the City, while those described as Recommended are optional.

Use the Stormwater Pollution Source Control Checklist and Worksheet in Appendix 9A to document those activities/potential pollutant sources that will be present at a proposed project. Use the Stormwater Pollution Source Control Checklist to identify all of the activities that will occur at a proposed project site. Use the Stormwater Pollution Source Control Worksheet to document all of the source control BMPs (both required and optional) to be used at the site.

The completed Stormwater Pollution Source Control Checklist and Worksheet in Appendix 9A shall be submitted with the permit application. Any required BMPs shall be listed on the Stormwater Pollution Source Control Worksheet and identified on stormwater site plans submitted for City review.

Note that satisfaction of the source control requirements of this section does not fulfill the requirements of any applicable state NPDES ISGP.

9.3 General Principles of Pollution Prevention

This section describes the basic pollution prevention principles that every business and homeowner must consider. Most of these are common sense "housekeeping" types of solutions. With collective action by individuals and businesses throughout the region in implementing each of these principles, the improvement in water quality could be substantial. Although most of these principles are aimed at commercial or industrial activities, many items apply to individual residents as well.

The following principles must be reflected in the Drainage Control Plan – Maintenance and Source Control Manual (Chapter 3, Section 3.3.3).

1. **Avoid the activity or reduce its occurrence**

    - Is there a substitute process or a different material available to get the job done?

    - Can a larger run of a process be performed at one time, thus reducing the number of times per week or month it needs to be repeated?

      Examples:

        - Schedule delivery of raw materials close to the time of use instead of stockpiling and exposing them to the weather.

        - Avoid one solvent-washing step altogether.

- Apply lawn care chemicals following directions and only as needed to avoid excessive fertilization.
- Do not apply herbicides right before it rains.

- Contact Ecology or the Thurston County Department of Public Health and Social Services for pollution prevention assistance.

2. Move activities under shelter

Sometimes it is fairly easy to move an activity indoors out of the weather. The benefits of this are twofold:

- Preventing runoff contamination
- Providing for easier, more controlled cleanup if a spill occurs.

  Example:

  - Unloading and storing barrels of chemicals inside a garage area instead of outside.

Please be aware that moving storage areas indoors may require installation of fire suppression equipment or other building modifications as required by the International Building Code (IBC), the International Fire Code, or City ordinances.

3. Clean up spills quickly

- Promptly contain and clean up solid and liquid pollutant leaks and spills on any exposed soil, vegetation, or paved area.
- Use commercial spill kits or readily available absorbents such as kitty litter.
- Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., which can contaminate stormwater.

4. Use less material

Don’t buy or use more material than you really need. This helps keep potential disposal, storage, and pollution problems to a minimum and can save money.

5. Use the least toxic materials available

Investigate the use of materials that are less toxic than what is used now.

Example:

- A caustic-type detergent or a solvent could be replaced with a more environmentally friendly product. Such a change might allow the site to discharge process water to the sanitary sewer instead of paying for expensive disposal (contact the City of Lacey Wastewater Utility or the LOTT Clean Water Alliance to find out about allowable sanitary sewer discharges and pretreatment permits). Wash water with biodegradable soap is not allowed to enter the stormwater drainage system.

6. Create and maintain vegetated areas near activity locations

Vegetation of various kinds can:

- Filter pollutants out of stormwater
- Provide erosion control

  Example:

  - Stormwater can be routed through vegetated areas (e.g., parking lot islands) located near the pollution-generating activity. By converting parking lot islands to depressions instead of mounded landscaped areas, they can be used to treat runoff from the parking lot or a nearby roof.

7. Locate activities as far as possible from groundwater drainage paths

Activities located as far as possible from known drainage paths, ditches, streams, other water bodies, and storm drains will be less likely to pollute, since it will take longer for material to reach the drainage feature. This gives more time to react to a spill, or if it is a "housekeeping" issue, may protect the local waters long enough for you to clean up the area around the activity.

Don't forget that groundwater protection is important throughout the region, no matter where the activity is located, so the actions taken on your site on a day-to-day basis are always important, even in dry weather.

8. Maintain stormwater drainage systems

Pollutants can concentrate over time in stormwater drainage structures such as catch basins, ditches, and storm drains. When a large storm event occurs, it can mobilize these pollutants and carry them to receiving waters. Maintenance actions can include:

- Develop and implement maintenance practices, inspections, and schedules for treatment facilities (e.g., detention ponds, oil-water separators, vegetated swales).
- Clean oils, debris, sludge, etc., from all BMP systems regularly, including catch basins, settling/detention basins, oil-water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater.
- Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas that are subjected to pollutant material leaks or spills.
- Repair or replace all leaking connections, pipes, hoses, valves, etc., which can contaminate stormwater.

Requirements for cleaning stormwater BMPs are discussed in Volume IV of the 2019 Ecology Manual, specifically BMP S417: BMPs for Maintenance of Stormwater Drainage and Treatment Systems. Maintenance standards can be found in Chapter 10.

9. Reduce, reuse, and recycle as much as possible

Always look for ways to recycle instead of just disposing. This can save money as well as keep both hazardous and non-hazardous materials out of the landfills. Learn more about other businesses that have made process changes allowing recycling of chemicals by calling Ecology at 1-800-RECYCLE and reviewing information on the following website: <http://1800recycle.wa.gov>

Another unique recycling opportunity for businesses is available through the Industrial Materials Exchange (IMEX). This free service acts as a waste or surplus "matchmaker," helping one company's waste become another company's asset. For instance, waste vegetable oil can become biofuel for another business. Go to the Industrial Materials Exchange website to list your potentially usable solid or chemical waste: <https://www.hazwastehelp.org/IMEX/index.aspx>

10. Be an advocate for stormwater pollution prevention

Help friends, neighbors, and business associates find ways to reduce stormwater pollution in their activities. Most people want clean water and do not pollute intentionally. Share your ideas and the BMPs in this chapter to get them thinking about how their everyday activities affect water quality.

11. Report problems

We all must do our part to protect water, fish, wildlife, and our own health by implementing proper BMPs, and reporting water quality problems that we observe. In the City, call the Department of Public Works at (360) 491-5644 to report dumping to sewers and to report spills and other incidents involving storm drains or ditches. For larger spills, contact Ecology's Southwest Regional Office at (360) 407-6300.

12. Provide oversight and training

- Assign one or more individuals at your place of business to be responsible for stormwater pollution control. Hold regular meetings to review the overall operation of BMPs.

- Establish responsibilities for inspections, operations and maintenance (O&M), documentation, and availability for emergency situations.

- Train all team members in the operation, maintenance, and inspection of BMPs and reporting procedures.

13. Dust control

- Sweep paved material handling and storage areas regularly as needed, to collect and dispose of dust and debris that could contaminate stormwater.

- Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water.

14. Eliminate illicit connections

An illicit connection is formally defined in the City's NPDES Municipal Stormwater Permit and in Section 14.29.010 LMC, but generally includes any connection to the City stormwater system that is not intended, permitted, or used for collecting and conveying stormwater. A common problem with the stormwater drainage system for most communities is the existence of illicit connections of wastewater to the stormwater drainage system. Wastewater other than stormwater runoff, such as wash water, must be discharged to a wastewater collection system, and may not be discharged to a stormwater drainage system (the stormwater drainage system does not drain to a wastewater treatment plant).

Businesses and residences may have internal building drains, sump overflows, process wastewater discharges, and even sanitary sewer and septic system pipes that were incorrectly connected to the stormwater drainage system in the past.

All businesses and residences must examine their plumbing systems to determine if illicit connections exist. Any time it is found that toilets, sinks, appliances, showers and bathtubs, floor drains, industrial process waters, and/or other indoor activities are connected to the stormwater drainage system, these connections must be immediately rerouted to the sanitary or septic system, holding tanks, or a process treatment system.

15. Dispose of waste properly

Every business and residence in the City must dispose of solid and liquid wastes and contaminated stormwater properly. There are generally four options for disposal depending on the type of materials. These options include:

- Sanitary sewer and septic systems
- Recycling facilities
- Municipal solid waste disposal facilities
- Hazardous waste treatment, storage, and disposal facilities

The Thurston County Waste and Recovery Center (WARC) can accept a wide variety of materials including recyclables, garbage, and household hazardous waste. More information can on the types of materials accepted can be found on Thurston County's website: <www.co.thurston.wa.us/solidwaste/garbage/garbage-warc.html>

9.4 Local Amendments to Source Control BMPs

Refer to Volume IV of the 2019 Ecology Manual for source control BMPs. The following BMPs have local amendments:

- S409: BMPs for Fueling at Dedicated Stations
- S427: BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers

9.4.1 S409: BMPs for Fueling at Dedicated Stations

This BMP applies to businesses and public agencies that operate a facility used for the transfer of fuels from a stationary pumping station to vehicles or equipment. This type of fueling station includes aboveground or underground fuel storage facilities, which may be permanent or temporary. Fueling stations include facilities such as, but not limited to, commercial gasoline stations, 24-hour convenience stores, car washes, warehouses,

manufacturing establishments, maintenance yards, port facilities, marinas and boatyards, construction sites, and private fleet fueling stations.

Description of Pollutant Sources

Typically, stormwater contamination at fueling stations is caused by leaks or spills of fuels, lubrication oils, radiator coolants, fuel additives, and vehicle wash water. These materials contain organic compounds, oils and greases, and metals that can be harmful to humans and aquatic life. These pollutants must not be discharged to the drainage system or directly into receiving water.

A spill can be a one-time event, a continuous leak, or frequent small spills. All types must be addressed.

Required BMP Elements

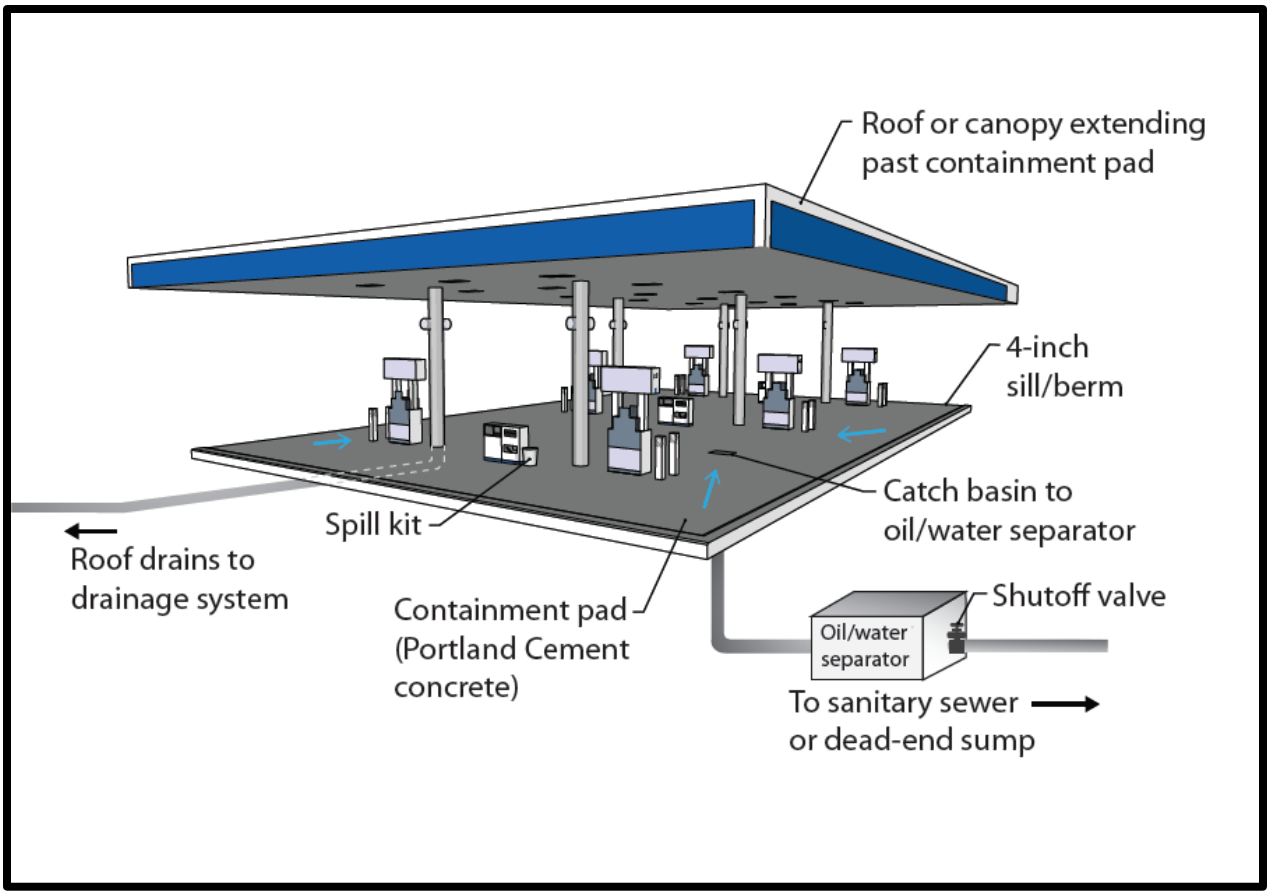
All BMPs related to fueling at dedicated stations must be consistent with the requirements of the Fire Code as adopted and amended per Chapter 14.07 LMC. The water quality requirements presented in this manual are separate from, and in addition to, the requirements of the Fire Code. These water quality requirements relate to fuel storage tanks, fuel dispensing equipment, area lighting, spill control and secondary containment, signage, maintenance, and operations. For current requirements, refer to Chapter 14.07 LMC.

New or substantially altered stations* require the following (refer to Figure 9.1):

*Substantial alteration of fueling stations includes replacing the canopy or relocating, replacing, or adding one or more fuel dispensers in such a way that the Portland cement concrete (or equivalent) paving in the fueling area is modified. Addition of fuel tanks to a site also triggers implementation of source control BMPs.

- Construct fueling stations on an impervious concrete pad under a roof to keep out rainfall and to prevent stormwater run-on. Pave the fueling island and containment pad with Portland cement concrete or equivalent. Asphalt is not considered an equivalent material.

- Design the fueling island (Figure 9.2) to minimize stormwater contamination, to control spills, and to collect and direct contaminated stormwater and/or wastewater to a pretreatment facility that will achieve the performance goal per Chapter 8. The fueling island must be designed in compliance with all applicable codes.



Source: City of Seattle

Figure 9.1. Fueling Island Schematic.

Source: City of Seattle

Figure 9.2. Roof at Fueling Island to Prevent Stormwater Run-On.

- The fueling island spill containment pad must be designed with the following:
    - A sill/berm (or equivalent control) raised to a minimum of 4 inches to contain spilled liquids and to prevent the run-on of stormwater from the surrounding area. Raised sills are not required at open-grate trenches that connect to an approved drainage control system.
    - A concrete containment pad around the fueling island that is sloped toward the fuel containment pad drains. The slope of the drains must not be less than 1 percent. Drains from the fueling island containment pad must discharge to the sanitary sewer or a dead-end sump. Provide drainage using trench drains and/or catch basins to collect spilled liquids and any contaminated stormwater runoff from the fuel island containment pad and convey it to either (1) the sanitary sewer—if approved by the City and LOTT Clean Water Alliance—through an approved pretreatment system such as an oil-water separator, or (2) a dead-end sump so that it can be held for proper off-site disposal.

- For discharges to the sanitary sewer, a catch basin must be installed upstream of the oil-water separator.
- If a dead-end sump is used, it must be easily inspected.
- Collected runoff from the fuel island containment pad discharged to the sanitary sewer must comply with the LMC. Comply with pretreatment regulations prohibiting discharges that could cause a fire or explosion (WAC, Section 173-216-060).
- The minimum spill retention volume of the oil-water separator or dead-end sump (i.e., volume of spilled fuel contained before the structure overflows) must be sized as follows:
  - For a covered fuel pad: 15 minutes for the flow rate of the dispensing mechanism with the highest through-put rate
  - For an uncovered area or an area that receives run-on from an uncovered area: the 15-minute peak flow rate of the 6-month, 24-hour storm event (or 91 percent of the total runoff volume for the simulation period if using continuous simulation modeling) over the surface of the containment pad, plus the volume required for a covered fuel pad.

The minimum volume of the spill containment sump must be 50 gallons with an adequate grit sedimentation volume. The spill retention/containment volume of the oil-water separator must retain the required spill volume when the oil-water separator is full of water. Dead-end sumps must not be used when the fuel containment area is uncovered or will receive run-on from other areas unless approved by the Public Works Director.

Note: To calculate the fuel containment capacity, determine the volume of fuel retention on the basis of the retained water volume in the bottom of the oil-water separator bottom and the density of fuel. Fuel containment will be above the static water level into the normal headspace of the oil-water separator (i.e., floating on top of the retained water volume) when the automatic shutoff valve is closed. Subtract the retained water volume in the oil-water separator from the overall volume of the oil-water separator to determine the spill retention volume.

- For further requirements and guidance related to the storage of fuel-contaminated stormwater, refer to S428: BMPs for Storage of Liquids in Permanent Aboveground Tanks in the 2019 Ecology Manual.

- For discharges to the sanitary sewer or combined sewer, an automatic shutoff valve is required at the discharge point of the oil-water separator. The valve at the discharge point must be closed in the event of a spill. When an oil-stop valve or resin plug valve is used, it must be engineered to be at least as protective as an automatic shutoff valve.

- Construct a roof or canopy over the fueling island to prevent precipitation from falling directly onto the spill containment pad (Figure 9.2). The roof or canopy must:
    - At a minimum, cover the spill containment pad (within the grade break or fuel dispensing area) and preferably extend several additional feet to reduce the introduction of windblown rain.
    - Roofs and canopies 10 feet or less in height must have a minimum overhang of 3 feet on each side. The overhang must be measured relative to the berm or other hydraulic grade break.
    - Roofs or canopies greater than 10 feet in height must have a minimum overhang of 5 feet on each side.
- Convey runoff collected in roof or canopy drains to a drainage system or receiving water outside the fueling containment area. This will prevent the mixing of uncontaminated runoff from the roof with contaminated runoff from the fueling island.
- A roof or canopy may not be practical at fueling stations that regularly fuel vehicles 10 feet in height or more, particularly at industrial or transportation sites. Additional BMPs or equivalent measures are required. At these types of fueling facilities, the following BMPs apply, as well as all of the other required BMPs and fire prevention requirements (Chapter 14.07 LMC and Uniform Fire Code).
- The concrete fueling pad must be equipped with an emergency spill control device that includes a shutoff valve for drainage from the fueling area.
- The shutoff valve must be closed in the event of a spill. An automatic shutoff valve is required to minimize the time lapse between spill and containment.

Obtain all necessary permits for installing, altering, or repairing side sewers. Restrictions on certain types of discharges may require pretreatment before they enter the sanitary sewer.

The following BMPs or equivalent measures are required for all fueling stations:

- Implement source control BMPs applicable to all sites (refer to Volume IV in the 2019 Ecology Manual).
- Train employees on the proper use of fuel dispensers.
- Do not use dispersants to clean up spills or sheens.
- Post signs related to the operation of fuel dispensers in accordance with Chapter 14.07 LMC. For example, post “No Topping Off” signs near fuel

dispensers (topping off gasoline tanks results in spillage and vents gasoline fumes to the air).

- Ensure that the person conducting the fuel transfer is present at the fueling dispenser/fueling pump during fuel transfer, particularly at unattended or self-service stations. Post "Stay with Vehicle during Fueling" signage near fuel dispensers.

- Ensure that the automatic shutoff on the fuel nozzle is functioning properly.

- Ensure that at least one designated trained person is available either on site or on call at all times to implement spill prevention and cleanup promptly and properly. If the fueling station is unattended, the spill plan must be visible to all customers using the station, and the spill kit must also be accessible and fully stocked at all times.

- Keep suitable cleanup materials, such as dry adsorbent materials, on site to enable employees to promptly clean up spills.

- Transfer the fuel from the delivery tank trucks to the fuel storage tank in impervious contained areas and ensure that appropriate overflow protection is used. Cover nearby inlets/catch basins during the filling process and use drip pans under all hose connections.

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

Description of Pollutant Sources

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 Volume I, Section 2.15 of the 2019 Ecology Manual). Leaks and spills of pollutant materials during handling and storage are the primary sources of pollutants. Oil and grease, acid/alkali pH, biochemical oxygen demand (BOD), chemical oxygen demand (COD) are potential pollutant constituents.

Pollutant Control Approach

Store containers in impervious containment under a roof 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 Secondary Containment System figure in Volume IV of the 2019 Ecology Manual in lieu of a permanent system as described above.

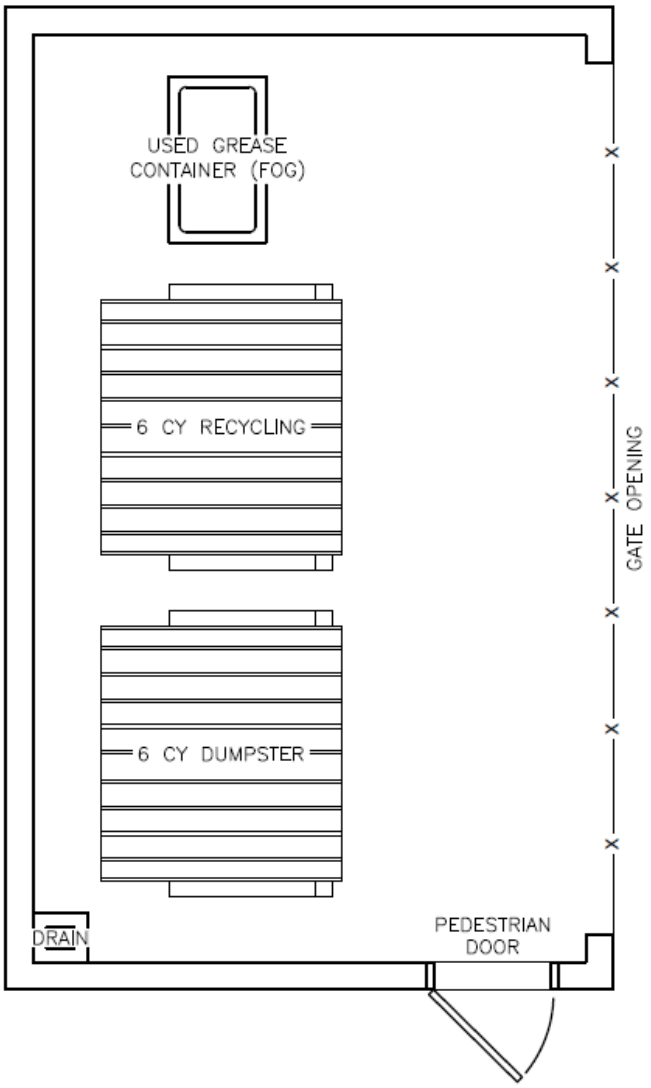
Applicable Operational BMPs

- 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.
- Store empty drums containing residues 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 Title 14 LMC.
- 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 Locking System for Drum Lid figure in Volume IV of the 2019 Ecology Manual).
- If the material is a Dangerous Waste, the business owner must comply with any additional requirements as specified in Volume I, Section 2.15 of the 2019 Ecology Manual.
- Storage of reactive, ignitable, and flammable chemicals or materials must comply with the stricter of Titles 14 and 16 LMC.
- Have spill kits or cleanup materials near container storage areas.
- Clean up all spills immediately.
- Cover dumpsters to prevent the entry of stormwater. Keep dumpster lids closed.
- Replace or repair leaking garbage dumpsters, or install waterproof liners.
- Drain dumpsters and/or dumpster pads to sanitary sewer.
- 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

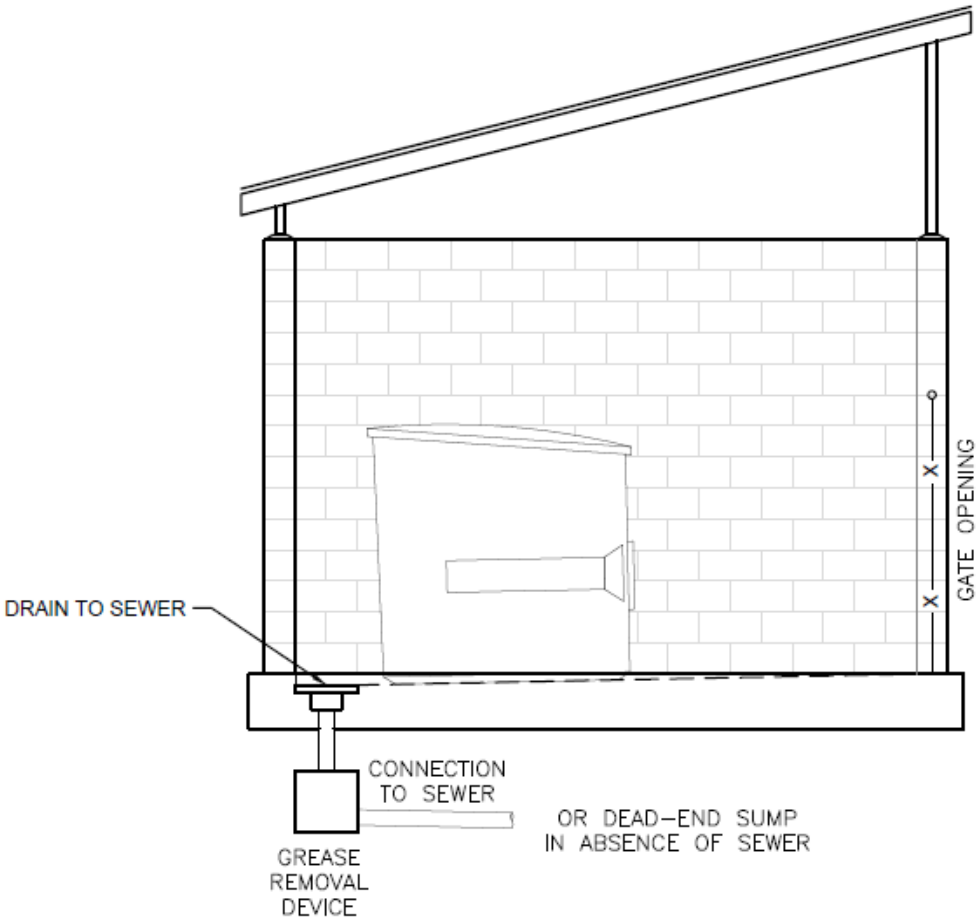
- Keep containers with Dangerous Waste, food waste, or other potential pollutant liquids inside a building unless this is impracticable due to site constraints or International Fire Code requirements.

- Store containers in a designated area, which is covered, bermed or diked, paved, and impervious in order to contain leaks and spills (see Figures 9.3 and 9.4). The secondary containment shall be sloped to drain into a dead-end sump for the collection of leaks and small spills.



Source: Kitsap County

Figure 9.3. Example of a Covered, Bermed, and Plumbed Area – Plan View.



Source: Kitsap County

Figure 9.4. Example of a Covered, Bermed, and Plumbed Area – Side View.

- For liquid materials, surround the containers with a dike as illustrated in Covered and Bermed Containment Area figure in Volume IV of the 2019 Ecology Manual. 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.

- Where material is temporarily stored in drums, a containment system can be used as illustrated, in lieu of the above system (see Secondary Containment System figure in Volume IV of the 2019 Ecology Manual).

- 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 Mounted Container with Drip Pan figure in Volume IV of the 2019 Ecology Manual).

Applicable Treatment BMP

Note: This treatment BMP is for contaminated stormwater from drum storage areas.

- To discharge contaminated stormwater, pump it from a dead-end sump or catchment and dispose of appropriately.

Appendix 9A – Stormwater Pollution Source Control Checklist and Worksheet

CITY OF LACEY STORMWATER POLLUTION SOURCE CONTROL CHECKLIST

Project Name:_____

Check all activities that will occur at a proposed site. Only activities common in the City of Lacey are included in this checklist. Other activities may apply to your site. Fill in the blank rows included under each activity grouping if needed based on the complete list of site-specific activities provided in Table 9A.1.

Source Control BMPs Applicable to All Sites		
BMP #	**BMP Name**	
S410	Correcting Illicit Discharges to Storm Drains	
S453	Formation of a Pollution Prevention Team	
S454	Preventive Maintenance/Good Housekeeping	
S455	Spill Prevention and Cleanup	
S456	Employee Training	
S457	Inspections	
S458	Record Keeping	
Source Control BMPs for Specific Activities		
BMP #	**BMP Name**	**Activity Conducted on the Site?**
Cleaning or Washing Source Control BMPs		
S431	Washing and Steam Cleaning Vehicles/Equipment/Building Structures	☐ Yes ☐ No
_____	_____	☐ Yes ☐ No
Roads, Ditches, and Parking Lot Source Control BMPs		
S415	Maintenance of Public and Private Utility Corridors and Facilities	☐ Yes ☐ No
S416	Maintenance of Roadside Ditches	☐ Yes ☐ No
S417	Maintenance of Stormwater Drainage and Treatment Systems	☐ Yes ☐ No
S421	Parking and Storage of Vehicles and Equipment	☐ Yes ☐ No
S430	Urban Streets	☐ Yes ☐ No
_____	_____	☐ Yes ☐ No
Soil Erosion, Sediment Control, and Landscaping Source Control BMPs		
S407	Dust Control at Disturbed Land Areas and Unpaved Roadways and Parking Lots	☐ Yes ☐ No
S408	Dust Control at Manufacturing Areas	☐ Yes ☐ No
S411	Landscaping and Lawn/Vegetation Management	☐ Yes ☐ No
S425	Soil Erosion and Sediment Control at Industrial Sites	☐ Yes ☐ No
S435	Pesticides and an Integrated Pest Management Program	☐ Yes ☐ No

BMP #	BMP Name	Activity Conducted on the Site?
Soil Erosion, Sediment Control, and Landscaping Source Control BMPs (continued)		
S444	Storage of Dry Pesticides and Fertilizers	□ Yes □ No
S449	Nurseries and Greenhouses	□ Yes □ No
S450	Irrigation	□ Yes □ No
_____	_____	□ Yes □ No
Storage and Stockpiling Source Control BMPs		
S427	Storage of Liquids, Food Waste, or Dangerous Waste Containers	□ Yes □ No
S428	Storage of Liquids in Permanent Aboveground Tanks	□ Yes □ No
S429	Storage or Transfer (Outside) of Solid Raw Materials, Byproducts or Finished Products	□ Yes □ No
_____	_____	□ Yes □ No
Transfer of Liquid or Solid Materials Source Control BMPs		
S409	Fueling at Dedicated Stations	□ Yes □ No
S412	Loading and Unloading Areas for Liquid or Solid Material	□ Yes □ No
S419	Mobile Fueling of Vehicles and Heavy Equipment	□ Yes □ No
S426	Spills of Oil and Hazardous Substances	□ Yes □ No
_____	_____	□ Yes □ No
Other Source Control BMPs		
S404	Commercial Printing Operations	□ Yes □ No
S414	Maintenance and Repair of Vehicles and Equipment	□ Yes □ No
S418	Manufacturing Activities – Outside	□ Yes □ No
S420	Painting/Finishing/Coating of Vehicles/Boats/Buildings/ Equipment	□ Yes □ No
S423	Recyclers and Scrap Yards	□ Yes □ No
S424	Roof/Building Drains at Manufacturing and Commercial Buildings	□ Yes □ No
S432	Wood Treatment Areas	□ Yes □ No
S433	Pools, Spas, Hot Tubs, and Fountains	□ Yes □ No
S438	Construction Demolition	□ Yes □ No
S443	Fertilizer Application	□ Yes □ No
S447	Roof Vents	□ Yes □ No
S451	Building, Repair, Remodeling, Painting, and Construction	□ Yes □ No
_____	_____	□ Yes □ No

Table 9A.1. All Site-Specific Source Control BMPs.	
BMP #	**BMP Name**
Cleaning or Washing Source Control BMPs	
S431	Washing and Steam Cleaning Vehicles/Equipment/Building Structures
S434	Dock Washing
S441	Potable Water Line Flushing, Water Tank Maintenance, and Hydrant Testing
Roads, Ditches, and Parking Lot Source Control BMPs	
S405	Deicing and Anti-Icing Operations for Airports
S406	Streets and Highways
S415	Maintenance of Public and Private Utility Corridors and Facilities
S416	Maintenance of Roadside Ditches
S417	Maintenance of Stormwater Drainage and Treatment Systems
S421	Parking and Storage of Vehicles and Equipment
S430	Urban Streets
Soil Erosion, Sediment Control, and Landscaping Source Control BMPs	
S407	Dust Control at Disturbed Land Areas and Unpaved Roadways and Parking Lots
S408	Dust Control at Manufacturing Areas
S411	Landscaping and Lawn/Vegetation Management
S425	Soil Erosion and Sediment Control at Industrial Sites
S435	Pesticides and an Integrated Pest Management Program
S444	Storage of Dry Pesticides and Fertilizers
S449	Nurseries and Greenhouses
S450	Irrigation
Storage and Stockpiling Source Control BMPs	
S427	Storage of Liquids, Food Waste, or Dangerous Waste Containers
S428	Storage of Liquids in Permanent Aboveground Tanks
S429	Storage or Transfer (Outside) of Solid Raw Materials, Byproducts or Finished Products
S445	Temporary Fruit Storage
Transfer of Liquid or Solid Materials Source Control BMPs	
S409	Fueling at Dedicated Stations
S412	Loading and Unloading Areas for Liquid or Solid Material
S419	Mobile Fueling of Vehicles and Heavy Equipment
S426	Spills of Oil and Hazardous Substances
S439	In-Water and Over-Water Fueling

Other Source Control BMPs	
S401	Building, Repair, and Maintenance of Boats and Ships
S402	Commercial Animal Handling Areas
S403	Commercial Composting
S404	Commercial Printing Operations
S413	Log Sorting and Handling
S414	Maintenance and Repair of Vehicles and Equipment
S418	Manufacturing Activities – Outside
S420	Painting/Finishing/Coating of Vehicles/Boats/Buildings/Equipment
S422	Railroad Yards
S423	Recyclers and Scrap Yards
S424	Roof/Building Drains at Manufacturing and Commercial Buildings
S432	Wood Treatment Areas
S433	Pools, Spas, Hot Tubs, and Fountains
S436	Color Events
S438	Construction Demolition
S440	Pet Waste
S442	Labeling Storm Drain Inlets On Your Property
S443	Fertilizer Application
S446	Well, Utility, Directional and Geotechnical Drilling
S447	Roof Vents
S451	Building, Repair, Remodeling, Painting, and Construction
S452	Goose Waste

CITY OF LACEY STORMWATER POLLUTION SOURCE CONTROL WORKSHEET

List all source control BMPs to be used at site. Use one worksheet for each activity from the checklist.

Project:_____ Activity:_____

OPERATIONAL BMPs
STRUCTURAL BMPs
TREATMENT BMPs