

CHAPTER 7: ON-SITE SOURCE CONTROLS TABLE OF CONTENTS

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ON-SITE SOURCE CONTROLS - INTRODUCTION

Some site characteristics and uses may generate specific pollutants that are not addressed solely through implementation of the stormwater quality measures identified in **Chapter 2**. The site characteristics and uses in this chapter have been identified as potential sources for chronic loadings or acute releases of pollutants such as oil and grease, toxic hydrocarbons, heavy metals, toxic compounds, solvents, abnormal pH levels, nutrients, organics, bacteria, chemicals, and suspended solids. This chapter presents source controls for managing these pollutants at their source.

Industrial facilities may be subject to additional requirements through State of Oregon issued NPDES permits or as outlined in Oregon Administrative Rules (OAR) 340 Division 041. Lists of prohibited discharges to the City's storm sewer system is found in the Municipal Code. The City has used these standards in the development of the listed source controls so that stormwater discharges can better meet these criteria.

The requirements and implementation of this chapter is in addition to the applicable water quality, and flow control requirements.

Applicants may propose alternatives to the source controls identified in this chapter. Proposal of an alternative source control or alternative design element will require an additional review process.

Site Uses and Characteristics That Trigger Source Controls

Projects with the following site uses and characteristics are subject to the design methodologies of this chapter:

- Fuel dispensing facilities and surrounding traffic areas
- Above-ground storage of liquid materials
- Solid waste storage areas, containers, and trash compactors
- Outdoor storage of bulk materials
- Equipment and/or vehicle washing facilities
- Stormwater and groundwater management for development on land with suspected or known contamination

Applicants are required to address all the site characteristics and uses listed throughout this chapter. For example, if a development includes both a fuel dispensing area and a vehicle washing facility, the source controls in both sections will apply.

Source Control Goals and Objectives

The specific source control standards are based on the following goals and objectives:

- A.** Prevent stormwater pollution by eliminating pathways that may introduce pollutants into stormwater.
- B.** Protect soil, groundwater and surface water by capturing acute releases and reducing chronic contamination of the environment.
- C.** Direct contaminated discharges (including wash water) to a destination that meets all applicable code requirements and facilitates cleanup.
- D.** Direct areas that have the potential for acute releases or accidental spills and are not expected to regularly receive flow or require water use (such as covered fuel islands or covered containment areas), to an approved method of containment or destination.
- E.** Safely contain spills on-site, avoiding preventable discharges to the storm drain, wastewater facilities, surface water bodies, or underground injection control structures (UICs).
- F.** Emphasize structural controls over operational procedures. Structural controls are not operator

dependent and are considered to provide more permanent and reliable source control. Any proposals for operation-based source controls need to describe the long-term viability of the maintenance program.

Signage

Informational signage is required for certain site uses and activities that may pollute stormwater. Signage addresses good housekeeping rules and provides emergency response measures in case of an accidental spill.

Required spill response supplies must be clearly marked, located where the signage is posted (or the location of the supplies must be clearly indicated by the signage), and must be located near the high-risk activity area. Required spill response supplies, such as absorbent material and protective clothing, should be available at all potential spill areas. Employees must be familiar with the site's operations and maintenance plan and proper spill cleanup procedures.

All signage shall conform to the standards described in the following box. Additional signage for specific activities is noted in applicable sections.

Signs shall be 8.5" x 11" or larger and located to be plainly visible from all activity areas. More than one sign may be needed to accommodate larger activity areas. Signs shall be water-resistant and shall include the following information:

- Safety precautions for self-protection and spill containment.
- Immediate spill response procedures—for example: "Turn the valve located at..." or "Use absorbent materials"
- Emergency contact(s) and telephone number(s)—for example: "Call 911"

Request for Alternative Design Method of Source Control

Applicants must notify the City's Public Works Department of their request in writing, specifying the reason for the request and supporting it with technical and factual data.

Staff will check the supporting information submittal for completeness prior to review and decision. If the request cannot be satisfied with this process, the adjustment review process will be implemented.

FUEL DISPENSING FACILITIES

Fuel Dispensing Facilities include areas where fuel is transferred from bulk storage tanks to vehicles, equipment, and/or mobile containers (including fuel islands, above ground fuel tanks, fuel pumps, and the surrounding pad). This applies to large-sized gas stations as well as single-pump fueling operations.

Cover

The fuel dispensing area shall be covered with a permanent canopy, roof, or awning so precipitation cannot come in contact with the fueling activity areas. Rainfall shall be directed from the cover to an approved stormwater destination.

Covers 10 feet high or less shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated fueling activity area/pad it is to cover.

Covers higher than 10 feet shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated fueling activity area/pad it is to cover.

Pavement

A paved fueling pad shall be placed under and around the fueling activity area with asphalt or concrete and shall meet all applicable building code requirements. Sizing of the paved areas shall be adequate to cover the activity area, including placement and number of the vehicles or pieces of equipment to be fueled by each pump.

Fuel pumps shall be located a minimum of seven feet from the edge of the fueling pad.

Drainage

The paved area beneath the cover shall be hydraulically isolated through grading, berms, or drains. This will prevent uncontaminated stormwater from running onto the area and carrying pollutants away. Drainage from the hydraulically isolated area shall be directed to a spill controlled holding area. Surrounding runoff shall be directed away from the hydraulically isolated fueling pad to a stormwater destination that meets all stormwater management practices of this manual and other applicable code requirements.

Signage

Signage shall be provided at the fuel dispensing area and shall be plainly visible from all fueling activity areas. Signage must clearly specify the location of any applicable spill control kits, shut-off valves, etc. and include all necessary instructions for their use.

Spill Control Holding Area

A spill control holding area shall be installed on the discharge line of the fueling pad. The tee section shall extend 18 inches below the outlet elevation, with an additional 3 feet of dead storage volume below the tee to provide storage for oil and grease. The total containment volume shall be no less than 110% the volume of the largest container or 10% of the total volume of product stored, whichever is larger. The holding area shall be located on private property.

Shut-Off Valves

Shut-off valves may be required to protect the City stormwater systems or onsite infiltration facilities of spill risks from chemicals and other constituents that provide a danger for wide spread contamination, system damages or risk to the public health. Manual shut-off valves shall not be permitted unless a request for an adjustment is approved by the City.

Shut-off valves may be required in the following situations:

- Site or activity areas where corrosives or oxidizers are used or stored (for example, concentrated acids are corrosives having a pH of less than or equal to 5.0 and bases such as sodium or ammonium hydroxide having a pH of greater than or equal to 12.0, common oxidizers are hydrogen peroxide and bleach); or
- Substances which are water soluble or float on water; or
- Solvents and petroleum products

Additional requirements

- **Installation, alteration, or removal of above-ground fuel tanks larger than 55 gallons, and any related equipment**, are subject to additional permitting requirements by the City of Grants Pass.
- **Bulk fuel terminals**, also known as tank farms, will require the following:
 - Secondary containment equal to 110 percent of the product's largest container or 10 percent of the total volume of product stored, whichever is larger.
 - A separate containment area for all valves, pumps and coupling areas with sub-bermed areas either in front of or inside the main containment areas. These sub-bermed areas

are required to have rain shields and be directed to a temporary holding facility for proper disposal.

- An impervious floor within all containment areas. Floors must be sealed to prevent spills from contaminating the groundwater.
- Truck loading and off-loading areas. These areas shall follow cover, pavement, drainage, spill control, and shut-off valve requirements identified for fuel dispensing facilities.

Underground fuel tanks less than 4,000 gallons in size are subject to additional permitting requirements by Oregon's Department of Environmental Quality (DEQ) and tanks larger than 4,000 gallons are referred to the Federal Environmental Protection Agency (EPA). For technical questions and permitting, call DEQ's Western Region main office at 1-800-844-8467 and ask for the Underground Storage Tank Permitting Department.

ABOVE-GROUND STORAGE OF LIQUID MATERIALS

Containment

Liquid materials shall be stored and contained in such a manner that if the container(s) is ruptured, the contents will not discharge, flow, or be washed into a receiving system. A containment device and/or structure for accidental spills shall have enough capacity to capture a minimum of 110 percent of the product's largest container or 10 percent of the total volume of product stored, whichever is larger.

Containers, such as double-walled containers, with internal protection are considered to meet this requirement.

Cover

Storage containers (other than tanks) shall be completely covered to prevent stormwater contact. Runoff shall be directed from the cover to a stormwater destination that meets all stormwater management practices of this manual and other applicable code requirements.

Covers 10 feet high or less shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

Covers higher than 10 feet shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

Pavement

All above ground storage of liquid material must occur in paved areas. The storage area shall be paved with asphalt or concrete and shall meet all applicable building code requirements. Sizing of the paved areas shall be adequate to cover the area intended for storage.

Drainage

All paved storage areas shall be hydraulically isolated through grading, berms, or drains to prevent uncontaminated stormwater draining on to a storage area.

Covered storage areas: Limited to zero precipitation is expected to accumulate under covered storage areas. Drainage facilities are not required for the contained area beneath the cover.

Signage

Signage shall be provided at the liquid storage area and shall be plainly visible from all surrounding activity

areas.

SOLID WASTE STORAGE

Solid Waste Storage Areas, Containers, and Trash Compactors include outdoor areas with one or more facilities that store solid waste (both food and non-food waste) containers. Single and double-family residential solid waste storage areas, containers, and trash compactors are exempt from this code subsection.

Solid waste includes both food and non-food waste or recycling. Solid waste containers include compactors, dumpsters, compost bins, grease bins, recycling areas, and garbage cans. Debris collection areas used only for the storage of wood pallets or cardboard is excluded from these requirements.

The following site uses and activities apply to this section and include all commercial and industrial development with facilities that store solid wastes, both food and non-food.

- Outdoor solid waste storage areas.
- Multi-family (three or more) residential sites if a shared trash collection area is proposed.
 - Multi-residential ONLY. A request can be made to direct the drainage from the hydraulically isolated activity area to the development's stormwater quality facility. For more information, refer to Additional Requirements below.
- Activity areas used to collect and store refuse or recyclable materials, such as can or bottle return stations and debris collection areas.
- Facilities whose business is to process and/or recycle wood pallets or cardboard.
- Compactors (regardless of use).

Design

For approval of solid waste storage and handling activity areas in the City of Grants Pass, Cover, Pavement, Isolation, and Drainage requirements will apply.

Cover

A permanent canopy, roof, or awning must be provided to cover the solid waste storage activity area and shall be constructed to cover the activity area so rainfall cannot come in contact with the waste materials being stored. The cover shall be sized relative to the perimeter of the hydraulically isolated activity area it is to cover. Runoff shall be directed from the cover to a stormwater destination that meets all stormwater management practices of this manual and other applicable code requirements.

OUTDOOR STORAGE OF BULK MATERIALS

Any bulk materials storage location that is not completely enclosed by a roof and sidewalls is an outdoor storage area.

Bulk Materials Categories

Bulk materials are separated into three categories based on risk assessments for each material stored: high-risk, low-risk, and exempt.

Table 7-1: Bulk materials risk assessment categories

High-Risk Materials	Low-Risk Materials	Exempt Materials
<ul style="list-style-type: none"> • Recycling materials with potential effluent • Corrosive materials (e.g. lead-acid batteries) • Storage and processing of food items • Chalk/gypsum products • Feedstock/grain • Material by-products with potential effluent • Asphalt • Fertilizer • Pesticides • Lime/lye/soda ash • Animal/human wastes • Treated Lumber 	<ul style="list-style-type: none"> • Recycling materials without potential effluent • Scrap or salvage goods • Metal • Sawdust/bark chips • Sand/dirt/soil (including contaminated soil piles) • Material by-products without potential effluent • Unwashed gravel/rock • Composting Operations 	<ul style="list-style-type: none"> • Washed gravel/rock • Finished lumber • Plastic products (hoses, gaskets, pipe, etc.) • Clean concrete products (blocks, pipe, etc.) • Glass products (new, non-recycled)

Cover

Low-risk materials must be covered with a temporary plastic film or sheeting at a minimum.

High-risk materials are required to be permanently covered with a canopy or roof to prevent stormwater contact and minimize the quantity of rainfall entering the storage area. Runoff shall be directed from the cover to a stormwater destination that meets all applicable code requirements.

Covers 10 feet high or less shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

Covers higher than 10 feet shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

Pavement

Low-risk material storage areas are not required to be paved.

High-risk material storage areas shall be paved beneath the structural cover, floors must be sealed.

Drainage

Low-risk material storage areas are allowed in areas served by standard stormwater management systems.

However, all erodible materials being stored must be protected from rainfall.

If materials are erodible, a structural containment barrier shall be placed on at least three sides of every stockpile to act as a barrier to prevent uncontaminated stormwater from running onto the storage area and carrying pollutants away. If the area under the stockpile is paved, the barrier can be constructed of asphalt berms, concrete curbing, or retaining walls. If the area under the stockpile is unpaved, sunken retaining walls or ecology blocks can be used. The applicant shall clearly identify the method of containment on the building plans.

For **high-risk** material storage areas, the paved area beneath the structural cover shall be hydraulically isolated through grading, structural containment berms or walls, or perimeter drains to prevent runoff. Significant amounts of precipitation are not expected to accumulate in covered storage areas, and thus, drainage facilities are not required for the containment area beneath the cover.

Additional Requirements

Storage of pesticides and fertilizers may need to comply with specific regulations outlined by the Oregon Department of Environmental Quality (DEQ). For answers to technical questions, call DEQ's Western Region main office at 1-800-844-8467.

Signage shall be provided at the storage area if hazardous materials or other materials of concern are stored. Signage shall be located so it is plainly visible from all storage activity areas. More than one sign may be needed to accommodate large storage areas.

Alternative Protection Measures

In lieu of covering mineral resource mining, recovery, stockpiling, and processing operations and low-risk material storage areas receiving land use approval, the applicant may propose alternative protection measures that demonstrate that stormwater runoff from the site will not contaminate adjoining properties, surface waters, and ground water as part of their land use application.

MATERIAL TRANSFER AREAS/LOADING DOCKS

Material Transfer Areas/Loading Docks include areas that are either interior or exterior to a building, designed to accommodate a commercial truck/trailer being backed up to or into them, and used specifically to receive or distribute materials to and/or from commercial trucks/trailers. Includes loading/unloading facilities with docks, and large bay doors without docks.

These requirements also apply to all development proposing the installation of new material transfer areas or structural alterations to existing material transfer areas (*e.g.*, access ramp regrading, leveler installations) with the following characteristics:

- The area is designed (size, width, *etc.*) to accommodate a **commercial truck (1 ton and larger)** or trailer being backed up to or into it; and,
- The area is designed so that it can be used to receive or distribute materials to and from trucks or trailers.

Two standard types of **material transfer areas** associated with buildings are:

- Loading/unloading facilities with docks
- Large bay doors without docks

The requirements in this section do not apply to material transfer areas or loading docks used only for mid-

sized to small-sized passenger vehicles and areas restricted by lease agreements or other regulatory requirements to storing, transporting or using materials that are classified as domestic use, for example, primary educational facilities (elementary, middle or high schools), or buildings used for temporary storage, and churches.

Cover

The hydraulically isolated areas in front of loading docks are required to be permanently covered with a canopy or roof to prevent stormwater contact and to minimize the quantity of rainfall entering the loading dock area. Runoff shall be directed from the cover to a stormwater destination that meets all stormwater management practices of this manual and other applicable code requirements.

Covers 10 feet high or less shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

Covers higher than 10 feet shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated activity area.

Pavement

A paved material transfer area shall be placed underneath and around the loading and unloading activity area with asphalt or concrete that meets all applicable building code requirements. This will reduce the potential for soil contamination with potential impacts on groundwater and will help control any acute or chronic release of materials present in these areas.

Drainage

Loading Docks: Drainage from the hydraulically isolated area shall be contained and disposed of per appropriate codes.

An appropriately sized storage structure (such as a catch basin with no outlet or dead-end sump) will be required

Bay Doors and Other Interior Transfer Areas: Because interior material transfer areas are not expected to accumulate precipitation, installation of floor drains is not required or recommended. It is preferable to handle these areas with a dry-mop or absorbent material.

Isolation

Loading Docks: The first three feet of the paved area, measured from the building or dock face, shall be hydraulically isolated through grading, berms, or drains to prevent uncontaminated stormwater from running onto the area and carrying pollutants away.

Bay Doors and Other Interior Transfer Areas: Bay doors and other interior transfer areas shall be designed so that stormwater runoff does not enter the building. This can be accomplished by grading or drains. Interior surfaces may not drain or be washed down to the exterior of the building.

Signage

Signage shall be provided at the material transfer area and shall be plainly visible from all surrounding activity areas.

Additional Requirements

Bay doors and other interior transfer areas shall provide a 10-foot “no obstruction zone” beyond the

entrance within the building. This will allow the transfer of materials to occur with the truck or trailer end placed at least 5 feet inside the building, with an additional staging area of 5 feet beyond that. The “no obstruction” zone shall be clearly identified on the stormwater management plan and on the building plan at the time of the building permit application. The area shall be identified at the facility by painting the “no obstruction zone” with bright or fluorescent floor paint.

EQUIPMENT AND/OR VEHICLE WASHING FACILITIES

Equipment and/or Vehicle Washing Facilities include designated equipment and/or vehicle washing or steam cleaning areas, including smaller activity areas such as wheel washing stations.

Cover

The washing area shall be covered with a permanent canopy or roof so precipitation cannot come in contact with the washing activity area. Precipitation shall be directed from the cover to a stormwater destination that meets all stormwater management practices of this manual and other applicable code requirements.

Covers 10 feet high or less shall have a minimum overhang of 3 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated washing activity area it is to cover.

Covers higher than 10 feet shall have a minimum overhang of 5 feet on each side. The overhang shall be measured relative to the perimeter of the hydraulically isolated washing activity area it is to cover.

Pavement

A paved wash pad shall be placed under and around the washing activity area with asphalt or concrete that meets all applicable building code requirements. Sizing of the paved area shall adequately cover the activity area, including the placement of the vehicle or piece of equipment to be cleaned.

Drainage

The paved area beneath the cover shall be hydraulically isolated through grading, berms, or drains to prevent uncontaminated stormwater from running onto the area and carrying pollutants away. Drainage from the hydraulically isolated area shall be directed to the City’s wastewater facility, or authorized pretreatment facility and shall have isolation capability. Surrounding runoff shall be directed away from the hydraulically isolated washing pad to a stormwater destination that meets all applicable requirements of this manual.

Oil Control

All vehicle and equipment washing activities will be reviewed for needed oil controls to comply with the City’s wastewater discharge limits. The following design criteria are established for oil/water separators discharging to a wastewater facility:

Washing Areas Protected with a Cover or Located Inside a Structure

- Baffled oil/water separators and spill control (SC-Type) separators shall not be allowed for use with equipment and/or vehicle washing applications. *Note: activities and processes of a washing facility change over time and the introduction of heat and surfactants may occur.*
- Coalescing plate separators shall be designed to achieve 100 ppm non-polar oil and grease in the effluent from the peak flow generated by the washing activity. Testing information must be submitted by the manufacturer of the unit that supports the 100 ppm effluent standard at the calculated flow rate.
 - Standard flow from a 5/8” hose is estimated to be 10 gpm.

- For specially designed washing units, check the vendor specifications for maximum flow rates.
- Any pumping devices shall be installed downstream of the separator to prevent oil emulsification.
- Separator details must be shown on the building plans submitted for permit, and shall match manufacturer specifications and details, including the unit flow rate, effluent water quality, and maximum process flow rate.

On-site Wash Recycling Systems

Wash recycling systems may be used for oil control as long as they can meet effluent discharge limits for the City's wastewater system. A detail of the wash recycling system and vendor specifications identifying effluent efficiencies shall be submitted as part of the building plans at the time of building permit application.