



GUIDE TO OPERATION & MAINTENANCE OF STORMWATER SYSTEMS

**For Commercial Property Owners And Managers
from Kitsap County Surface and Storm Water
Management Program**



As a property owner or manager, you are responsible for the maintenance and upkeep of your building and surrounding property. You are also responsible for the maintenance of things you cannot see—like underground utilities. Backups of sewer or plumbing lines force you to maintain them, but many people forget about maintaining their storm drainage system. Over time, these systems can get plugged with debris and sediment (sand, gravel, etc.) causing flooding which can impact neighboring properties as well as your own. Regular inspection and maintenance of this system helps protect our water for fish, recreation, and drinking.

The storm drainage system is meant to carry only uncontaminated stormwater runoff, since it discharges the water to streams, rivers, groundwater, or Puget Sound without treatment. Unless you know otherwise, assume any outdoor drain is a storm drain and keep all contaminants out of it. Putting oil, antifreeze, detergents, and other materials into a storm drain is the same as dumping them straight into a stream, lake or Puget Sound.

3 Steps to Avoid Flooding

① Identify Your Stormwater System

In order to maintain the system, you need to know where it is and where it goes. Most outdoor drains lead to the stormwater system. As you walk through your property, use the maintenance record enclosed to draw a sketch of your property and stormwater system. Your building's "as-built" plans or the property owner may be able to help you. If you have trouble identifying your system, contact the SSWM Program at (360) 337-5777 for assistance.

② Inspect and Maintain Your Stormwater System

Like any other system, your stormwater system needs to be inspected and maintained regularly. How often maintenance is required will depend on your system, the area that drains to it, and the amount of rain we've had. Inspecting the system at least quarterly will give you a good idea of the need for maintenance. Follow the guidelines on the cleaning schedule on the next page. When you determine maintenance is required, contact a drain cleaning company to have your system maintained. These companies can also inspect the system for you. Check the yellow pages of the local phone book under drain cleaners, or contact the SSWM Program for a list of maintenance providers

③ Dispose of Waste Properly

Waste generated by cleaning stormwater systems will usually be taken away by the contractor who performs the maintenance on your system. If your system is located in unincorporated Kitsap County, the vendor will be able to dispose of this waste at the Kitsap County Stormwater Maintenance Waste Processing Facility in Brownsville **at no charge**, provided they have completed the facility training. Waste from sites within incorporated cities are charged a per load fee. When choosing a company to clean your system, ask if they have access to this facility. If unsure, contact Kitsap County's SSWM Program at (360) 337-5777 for assistance.

Stormwater Structure Cleaning Schedule

Drains or Catch Basins

These structures are located beneath many, but not all, storm drain grates. They are underground boxes designed to pass water through an outlet pipe while trapping sediment that settles to the bottom.

Cleaning is required when the sediment has filled half the distance from the bottom of the catch basin to the bottom of the outlet pipe.

Oil/Water Separators

Separators are designed to remove oil and sediment from water before the water is discharged to the storm drainage or sewer system. It is an underground structure with above ground access for maintenance. It may have baffles (vertical plates) or absorbent pads to retain floating oil. You need to identify which type of oil water separator you have and if it discharges to stormwater or sanitary sewer.

Cleaning and the replacement of absorbent pads is required after each spill or by October 1 of each year. Additional cleaning and/or replacement may be required throughout the year.

Detention Facilities

These facilities temporarily store stormwater runoff and release it at a controlled rate to reduce the chance of flooding and downstream impacts. These can be located underground (within a parking lot, vaults, barrels) or above ground (pond).

Cleaning is required when the sediment depth exceeds 10% of the storage depth or ½ the length of storage vault or any point depth that exceeds 15% of storage depth.

Retention Facilities

These facilities store stormwater runoff and allow it to infiltrate into the ground. They can include retention ponds, tanks, vaults, and/or infiltration systems.

Cleaning is required when the sediment depth exceeds 10% of the storage depth or ½ the length of storage vault or any point depth that exceeds 15% of storage depth.

Biofiltration Swales

Swales are broad, vegetated areas that direct and filter runoff. Dense vegetation in swales provides filtration to help improve water quality.

Cleaning is required when the vegetation or debris interferes with the flow of water. Grass should be no higher than three to six inches.

Outfalls and Discharges

Be sure you know where your system discharges water, or where it connects to another stormwater system.

Cleaning your outfall is required when the water flow out of the system is impeded by debris or by damage to parts of the system.

More detailed maintenance guidelines are available by contacting the Kitsap County SSWM Program at (360) 337-5777. Newer buildings may have an Operations and Maintenance manual on file with the county as well.

Kitsap County Surface and Stormwater Management Program

The Surface and Stormwater Management Program (SSWM) is a multi-agency program designed to address non-point pollution and flood control. The program was developed in response to the Federal Clean Water Act, the Puget Sound Water Quality Management Plan, and locally developed Watershed Action Plans. The core purpose of the program is to address non-point pollution, which has been identified as the primary source of pollution in Kitsap County's streams, lakes and marine waters. Non-point pollution is pollution carried from roofs, yards, streets and other land surfaces by stormwater runoff. The agencies receiving funding and providing services include Kitsap County Public Works, Kitsap County Department of Community Development, Kitsap County Health District, and Kitsap Conservation District.

Fees are charged on properties in unincorporated Kitsap County as follows based on an Equivalent Service Unit (ESU) of 4200 square feet of impervious surface. The fees are incorporated into the annual tax billings and collected by the Kitsap County Treasurer. Fees can be paid once annually, due by April 30 or in 50% increments (the first payment due April 30 and the second due October 31).

- A single family residence (one ESU) is charged the base unit rate*.
- Multifamily residences (duplexes, triplexes and four-plexes) are charged the number of dwelling units times the unit rate*
- Apartments, commercial, industrial and institutional uses are charged according to the estimated or measured impervious surface area divided by the square footage of one ESU, rounded to the nearest ESU but not less than one, times the unit rate*. A 50% fee credit is available for commercial properties that use rainwater harvesting, 100% infiltration, or direct discharge to Puget Sound for all site runoff after proper water quality treatment. For more information visit http://www.kitsapgov.com/sswm/admin_fees.htm or call 360-337-5777.
- Undeveloped and forest land are not charged.

*See Kitsap County Code 12.40.055, www.kitsapgov.com/resources.htm, for the current unit rate.

Kitsap County Surface and Stormwater Management Program

614 Division Street, Mail Stop 26A
Port Orchard, Washington 98366
360•337•5777



Commercial Stormwater System Maintenance Record

Address: _____

Company Name: _____

Owner: _____ Manager: _____

System Map

(include any major buildings, islands, structures and direction of flow)

Enter the number of:

Detention Facilities: _____ Type: Tank Vault Pond
Volume: _____

Retention Facilities: _____ Type: Pond Trench System

Catch Basins: _____ Oil/Water Separators: _____

Biofiltration Swales: _____

System Outfalls at: _____

Record of Maintenance Performed

Date	Type of Work Performed	Performed By

Place in prominent location for future reference.