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Shoreline Municipal Code  
13.10, 20.60, & 20.70

Engineering Development  
Guide

1998 King County Surface  
Water Design Manual

6/2008

# Surface Water Drainage

## **Why are surface water drainage controls important?**

Rainfall that lands on hard surfaces such as concrete, asphalt, or gravel does not soak into the ground. Surface water is rainfall that does not infiltrate into the ground or evaporate into the air and as a result flows over land. The intent of the adopted surface water drainage standards is to provide for control of the flow and quality of the surface water run-off.

Certain projects, due to size, scope, or nature of development are required to control surface water drainage that flows over impervious surfaces. Surface water flows can be controlled in several ways including infiltrating the water into the ground, the use of Best Management Practices, and/or engineered systems.

## **What are impervious surfaces?**

Hard surfaces including walkways, driveways, parking areas, and roofs that prevent rain water from soaking (infiltrating) into the ground are called impervious surfaces. Total impervious surface is the sum of all impervious surfaces on one site. The amount of new impervious surface a project proposes determines what level of drainage review is required.

## **What is a best management practice (BMP)?**

BMPs are practices, structures, or other methods that are used to prevent or lessen impacts to downstream drainage such as erosion or flooding.

## **What is infiltration?**

Infiltration is the movement of water from the surface to the subsoil. How fast the rain infiltrates depends on what is on the surface and on what kinds of soils are underneath the surface. Usually a geotechnical engineer evaluates the soils and determines the infiltration rate. On certain, specific projects, a certified septic designer can determine infiltration rates.

## **How is surface water flow control defined?**

Surface water flow control uses BMPs, such as infiltration, to slow or retain surface water onsite to prevent downstream damage such as erosion or flooding.

## **What is water quality treatment?**

Water quality treatment BMP's remove pollutants resulting from water running off of impervious surfaces such as driveways, parking areas, chemical storage areas, and roofs.

## **What is drainage review?**

Drainage review assesses the effects of a proposed development on the surface water drainage on the site and the surrounding areas. Once the effects are assessed, the drainage review determines which BMP's will help minimize onsite and downstream drainage problems.

*Note: This handout is for informational use only and is not to be substituted for the Shoreline Municipal Code and the International Codes.*

The City's adopted standard (1998 King County Surface Water Design Manual), defines four levels of drainage review:

- Small Site
- Targeted
- Full
- Large Site

Most projects in Shoreline trigger Small Site or Targeted drainage review.

### **When is drainage review required?**

In the City of Shoreline, the addition of 1,500 square feet or more of new impervious surface triggers drainage review and the addition of 1,500 square feet or more of pollution generating surfaces, such as driveways, requires a drainage review of water quality BMP's.

### **Are there special requirements for small site drainage review?**

Small site drainage and erosion prevention plan(s) can be prepared using Appendix C in the 1998 King County Surface Water Design Manual. The appendix is available online through King County's website <http://dnr.metrokc.gov/wlr/dss/manual.htm> A project that meets the criteria for small site drainage review normally does not need an engineer to prepare the drainage and temporary erosion and sedimentation control (TESC) plan.

### **What are the requirements for targeted drainage review and full Drainage?**

For projects that trigger either of these review types, an engineer licensed in the State of Washington must prepare a Technical Information Report (TIR) and the associated drainage design and civil plans for the project site.

### **Are plans required?**

For small site drainage, a contractor, the property owner, or an engineer can prepare site/civil plans according to Appendix C of the 1998 King County Surface Water Design Manual. For other projects, an engineer must prepare the plans. All plans provided must meet the drainage requirements in the 1998 King County Surface Water Design Manual, the City's Engineering Development Guide, and SMC 20.60.090. Handouts and checklists that outline general requirements and plan submittal criteria are available at the Planning and Development Services office or online at [www.cityofshoreline.com/cityhall/permits](http://www.cityofshoreline.com/cityhall/permits)

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The Municipal Code (Title 15 Buildings and Construction) can be reviewed at [mrsc.org](http://mrsc.org)

