

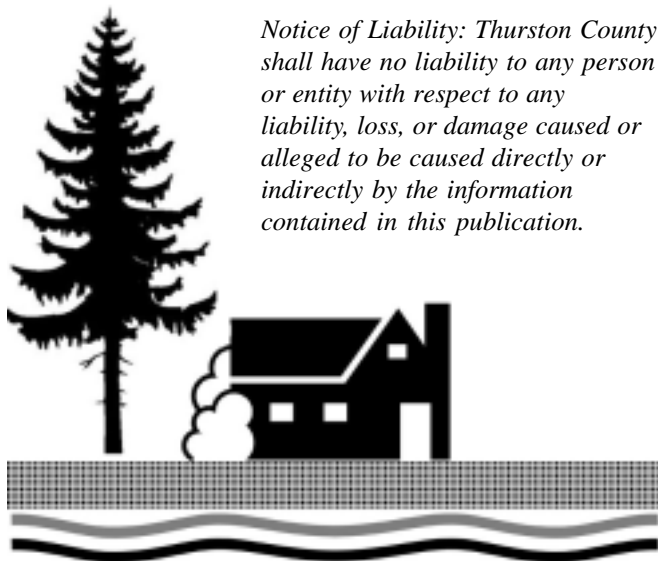


Developing Land Within the Salmon Creek Drainage Basin

About the Salmon Creek Basin

The Salmon Creek Drainage Basin* is a flat area that generally extends south of the Olympia Regional Airport in south-central Thurston County. Several areas of the Salmon Creek Drainage Basin are prone to ground water flooding because of the geology of the land. The most recent flooding events occurred in the late 1990s, when above-average rainfalls caused ground water levels to rise, damaging properties, forcing some homeowners to move, contaminating wells, and flooding septic systems.

Although ground water flooding does not occur every rainy season, the experiences of the 1990s led Thurston County commissioners to approve rules in 2000 that govern how builders develop land in the area. The county's goal is to help protect property owners from the financial and emotional hardships caused by ground water flooding, and to make sure new developments do not cause water problems for neighboring properties. This brochure answers common questions about building in the Salmon Creek Drainage Basin.



Notice of Liability: Thurston County shall have no liability to any person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the information contained in this publication.

Where to Find Information

This brochure refers to several publications and ordinances. To view these publications, visit the following web sites:

Permit Assistance Center "High Ground Water Flood Hazard Areas Resource Map": The map may be reviewed at the Permit Assistance Center, located on the second floor of Building 1 at the Thurston County Courthouse. The courthouse is located at 2000 Lakedridge Dr. S.W. in Olympia. This map is also available through www.geodata.org.

Storm and Surface Water Utility "Depth-to-Water Map": Visit www.co.thurston.wa.us/wwm. Select the "stormwater" button and then navigate to "Salmon Creek Drainage Basin Stakeholders Committee" web site.

Permit Assistance Center "Before You Build" guide: Visit www.co.thurston.wa.us/permitting.

Thurston County Building Code (Title 14): Review this code at the public library, with a design professional, or at the Thurston County Permit Assistance Center (www.co.thurston.wa.us/permitting).

1994 Drainage Design and Erosion Control Manual: Visit www.co.thurston.wa.us/wwm. Select "stormwater" button.

Critical Areas Ordinance: Visit www.co.thurston.wa.us/countycodes and navigate to Chapter 17.15.865.

What causes ground water flooding?



Ground water flooding in the Salmon Creek Drainage Basin is caused by a unique mix of local geology and weather conditions.

Two geologic layers are primarily responsible for ground water flooding in south Thurston County. The first layer, the upper aquifer, is eight- to 50-feet thick. It consists of well-sorted, loose sand and gravel, which rapidly accepts and stores water. Below this upper aquifer is a second layer of dense, compacted sand and gravel, mixed with silts and clays (commonly referred to as “hardpan”). This hardpan layer is not very porous and generally slows the downward flow of water from the upper aquifer.

Typically, when the region experiences two years of above-average rainfall, accompanied by wet springs and cool mild summers, the upper aquifer fills and overflows into low-lying areas. Rainfall and flooding data indicate this happens about every 20 years. The most recent ground water flooding events occurred in the 1996-97 and 1998-99 rainy seasons. Human alterations to the natural landscape have also contributed to the problem.

Do all properties experience ground water flooding?

No, many properties do not experience ground water flooding. However, because so many areas in the basin are susceptible to ground water flooding, people who wish to build on property in the area should research their parcel’s history carefully. Visit www.geodata.org and build a map with “high ground water” selected, or ask neighbors, real-estate agents, and contractors about the property.

If I plan to build within the basin boundaries, what rules must I follow?

Anybody who builds on property in Thurston County must follow certain rules, such as the *Thurston County Building Code* and the *1994 Drainage Design and Erosion Control Manual for Thurston County*. Most professional contractors are well aware of these rules. Citizens who need more information can get assistance from the Thurston County Permit Assistance Center. (A terrific resource is the “Before You Build” guide, available from the Permit Assistance Center.)

People who wish to build land within the Salmon Creek Drainage Basin, however, must also follow additional rules:

- ◆ **The 1994 Drainage Design and Erosion Control Manual.** This manual applies to any development in Thurston County – regardless of the location. The manual sets rules for how developers manage stormwater runoff caused by their projects. People who wish to develop land within the boundaries of the Salmon Creek Drainage Basin must pay particular attention to an amendment in the manual. This amendment is referred to as the “Revised Interim Stormwater Design Standards for New Development in the Salmon Creek Basin” (described on the back page). The amendment deals with ground water – the key challenge within the basin – and contains extra requirements for building within the basin.
- ◆ **The Critical Areas Ordinance.** This ordinance governs how land is developed in environmentally sensitive areas in Thurston County. This includes high ground-water hazards and buffers in the Salmon Creek Basin. People who wish to develop land in the Salmon Creek Basin must look on the Permit Assistance Center’s “High Ground Water Flood Hazard Areas Resource Map” to see whether the property is within a high ground-water area, or within 300 feet of the area. If all, or a portion, of their property is within those areas, they must follow the ordinance’s rules pertaining to high ground-water areas. (See next page for a summary.)

How do I assess ground water impacts to a specific development?

When considering a development project in the Salmon Creek Basin, the builder should assess how high ground-water hazards and required buffers might alter the extent of development allowed at the site. Typically, the ground water assessment required by the Revised Interim Stormwater Design Standards for New Development in the Salmon Creek Drainage Basin (referred to as “Interim Standards”) will require the developer to seek professional guidance from a licensed professional engineer or other environmental professional. By completing the steps shown on the back page, a project proponent should be able to assess ground water impacts to the project’s scope.

What is the goal of the Critical Areas Ordinance?

The Critical Areas Ordinance governs how land is developed in environmentally sensitive areas. The following provisions apply to high ground-water areas throughout Thurston County, including the Salmon Creek Drainage Basin, and to areas within 300 feet of their boundaries. These high ground-water areas are identified on a map called the “High Ground Water Flood Hazard Areas Resource Map,” available at the Thurston County Permit Assistance Center.

Within ground water flooding areas

- ◆ No building permits will be issued. However, existing structures can be repaired or raised.

Near ground water flooding areas (within 300 ft.)

- ◆ Buildings must be set back 50 feet from, and two (2) feet above, the known flood elevation.
- ◆ Structures are subject to the same building-code standards that apply for other flood-hazard areas.
- ◆ Developers may cover only a limited percent of their site with impervious surfaces. (Impervious surfaces are roofs, roads, driveways and other hard surfaces that prevent water from soaking into the ground.) For single-family residential units, the maximum impervious surface is 35 percent; for commercial and multi-family developments, the maximum is 50 to 65 percent.
- ◆ Timber harvesting is limited to June through October. For single-family residential subdivisions, 50 percent of the site can be harvested. For commercial and multi-family subdivisions, 75 percent of the site can be harvested. Some developers may be required to replant vegetation.



Call these numbers for more information

For information about the 1994 Drainage Design and Erosion Control Manual, and the interim standards that apply to the Salmon Creek Drainage Basin, call the Thurston County Storm and Surface Water Utility at 357-2491. Web: www.co.thurston.wa.us/www. Fax: 754-4682. Address: 921 Lakeridge Drive S.W., Building 4, Room 100, Olympia, WA 98502.

For information about the Thurston County Critical Areas Ordinance, call the Permitting Assistance Center at 786-5490. Web: www.co.thurston.wa.us/permitting. E-mail: permit@co.thurston.wa.us. Address: 2000 Lakeridge Drive S.W., Building 1, second floor, Olympia, WA 98502.



Summary of "Revised Interim Stormwater Design Standards for New Development in the Salmon Creek Basin"

(amendment to the 1994 Drainage Design and Erosion Control Manual)

