



WASHINGTON COUNTY

Dept. of Land Use & Transportation
Planning and Development Services Division
Current Planning Section
155 N. 1st Avenue, #350-13
Hillsboro, OR 97124
Ph. (503) 846-8761 Fax (503) 846-2908
<http://www.co.washington.or.us>

Drainage Hazard Area Procedure

Drainage hazard areas are covered by the Washington County Flood Plain Ordinance and are designated on the Washington County Flood Plain Map Series which is part of that ordinance. Drainage hazard areas are handled essentially the same as 100 year flood plain areas with two exceptions:

1. They are based on 25 year flood recurrence; and
2. Rather than the County providing a flood surface elevation, you must work with a consulting engineer to arrive at a surface elevation.

Though there may be other methods of determining the extent of the 25 year flooding, the method I use and have seen used most often is as follows:

From field surveying, measure several cross sections of the channel and the area immediately adjacent and field measure the slope of the channel. Also determine downstream culvert capacities and headwater depths. Using the rational method or some other appropriate method, determine the 25 year expected flow from upstream properties. Using the measured cross sections and slope and the calculated flow rate, work with Manning's equation to arrive at a depth of flow. The depth of flow added to the elevation of the creek bottom will become the 25 year flood surface elevation. This elevation probably will increase as one moves upstream in the channel. If higher elevations are caused by headwater from downstream and topographic mapping, one may determine what land area will be inundated by the 25 year flood.

The basic intent of the ordinance is to stay away from that inundated area with the proposed development. If development must occur in the inundated area, a flood plain or drainage hazard area alteration process must be used.

The alteration process involves an application, a fee, maps and calculations. In reviewing the proposed alteration, the Land Use and Transportation Department looks at a number of things:

1. The alteration must comply with the Flood Plain Ordinance.
2. Is there a true need for the alteration?
3. The proposed channel must be able to pass the 25 year flow.
4. If backup results from the alteration, the ponding must all be on property owned by the developer.
5. The total flood storage volume on the site must not decrease.
6. The property may be filled, but there must be excavation below the flood surface elevation to make up for it.
7. The general character of existing contours on the site must be maintained.
8. Natural site features, such as vegetation, slope, land form, wildlife, stream channel character, etc., must be maintained.
9. Disturbed areas must be reseeded.

The application and appropriate maps, calculations, cross sections, etc. are submitted by an Engineer (Registered in Oregon) to Current Planning Services of the Land Use & Transportation Department along with the required fee. The proposal is reviewed by the Land Use & Transportation Department with final approval granted by the Land Use & Transportation Director.