

DEVELOPMENT IN GEOLOGICALLY HAZARDOUS AREAS

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WHAT IS A GEOLOGICALLY HAZARDOUS AREA?

Geologically hazardous areas are those areas that, because of their susceptibility to erosion, landslides, debris or mud flows, or other geologic events, are generally not suited to the siting of commercial, residential, or industrial development. Most shoreline bluffs *and* the areas within 100 feet of the top or toe of bluffs in Island County, are considered geologically hazardous areas.

HOW CAN I FIND OUT IF I HAVE A GEOLOGICALLY HAZARDOUS AREA ON MY PROPERTY?

Geologically hazardous areas are those areas designated in the Department of Ecology Coastal Zone Atlas as land that has had recent or historic landslide activity and/or has unstable slope conditions. Though most geologically hazardous areas are mapped, some may not appear on any maps. **If an area meets the definition for a geologically hazardous area, it is regulated whether or not it is shown on County maps.** It is the property owner's responsibility to know what regulated features exist on their property.

WHAT ARE THE REGULATIONS?

Clearing and Grading Requirements (ICC 11.02) regulate development activity within geologically hazardous areas. A grading permit or grading review must be obtained prior to commencement of any land-disturbing activities in a geologically hazardous area including: clearing of vegetation or trees; filling or excavation in any quantities; and timber harvests. Types of land-disturbing activities may include, but are not limited to, drainfield and septic tank installation and site preparation for a house, deck, garage, shed, driveway or lawn. If the grading involves more than 500 cubic yards of material, you will also be required to comply with the State Environmental Policy Act (SEPA) requirements (see DIB #517). If the grading is within 200 feet of the shoreline of a marine waterbody or lake, or if a tightline drainage system to the base of a bluff is proposed, you will also be required to comply with shoreline regulations (see DIB #513).

WHAT PERMITS DO I NEED?

A review for compliance with the Clearing and Grading Requirements, ICC 11.02, is required prior to doing any ground-disturbing activities within geologically hazardous areas. Approval of the clearing and grading will be issued when it is determined that all requirements of ICC 11.02 have been met. In some cases, a separate clearing and grading *permit* may not be needed if there are other permits required such as building permits, site plan reviews, and subdivisions. Any permit conditions related to clearing and grading may be attached to the underlying permit.

WHAT INFORMATION MUST BE SUBMITTED WITH THE PERMIT APPLICATION?

Significant risk is incurred when developing within geologically unstable areas, and development can be technically very complex. In order to ensure that the applicant is aware of the risks, and to

provide County staff enough technical information to make an appropriate decision regarding a specific proposal, the following reports and information must be submitted with any application for clearing and grading on steep slopes (greater than 40%) or within 100 feet from the top or toe of a bluff:

0. **General Clearing and Grading Permit Application Requirements.** See DIB #501.
0. **A drainage narrative or plan and an erosion and sediment control plan** as required by ICC 11.03. See Drainage Narrative DIB #505 and Erosion and Sedimentation Control Requirements in ICC 11.03.230.
0. **A Geotechnical Report.** A geotechnical engineering report is required whenever clearing or grading is proposed within 100 feet of the top or toe of an unstable slope. The geotechnical engineer must inspect and comment on any proposed grading plans and the stability of slopes with respect to soil, hydrologic, and geologic conditions. All applications require new parcel-specific reports that address all proposed development including homes, decks, lawns or landscaping, access, parking areas, garages, and septic systems. A geotechnical report prepared for a neighboring parcel will not be accepted.

The scope of a geotechnical report shall include the following where applicable:

- An assessment of the geologic characteristics and engineering properties of the soils, sediments, and/or rock of the subject property and potentially affected adjacent properties. Soils analysis shall be accomplished in accordance with the Unified Soil Classification System;
- Determination of height of slope and slope gradient, including slope cross sections showing the geology;
- A description of load intensity including surface and groundwater conditions, public and private sewage disposal systems, fills and excavations and all structural development;
- An estimate of slope stability and the effect construction and placement of structures will have on the slope over the estimated life of the structure (usually 75 to 100 years);
- An estimate of the bluff retreat rate which recognizes and reflects potential catastrophic events such as seismic activity or one hundred (100) year storm events;
- Engineering calculations, including those that are related to factor of safety;
- An assessment describing the extent and type of vegetative cover, including trees;
- A detailed description of the project, its relationship to any identified geologic hazard(s), and its potential impact upon any identified hazard areas, the subject property, and affected adjacent properties.

When land-disturbing activities are proposed on a steep slope **not** in a geologically hazardous area, a Soils Engineering Report is required.

4. **Mitigation Plan.** A mitigation plan shall accompany a geotechnical report prepared by a professional engineer or geologist under supervision of a professional engineer. The mitigation plan shall include a discussion on how the project has been designed to avoid and minimize the impacts of the project. The mitigation plan must be approved by the Director and be implemented as a condition of project approval. The plan shall include:

- a recommendation for the minimum building setback from the top or toe of the bluff and/or other geologic hazard based upon the geotechnical analysis;
- a vegetation management and/or restoration plan and/or other means for maintaining long term stability of slopes;
- the potential impact of mitigation on the hazard area, the subject property, and affected adjacent properties;
- a temporary erosion and sedimentation control plan prepared in accordance with the requirements of ICC 11.03;
- a drainage plan for the collection, transport, treatment, discharge, and/or recycle of water in accordance with the requirements of ICC 11.02 and 11.03.

Surface Water Discharges

Concentrated discharges, as well as increased sheet flow, over a geologically hazardous slope, can contribute dramatically to slope instability. For this reason, surface drainage shall not be directed across the face of a geologically hazardous area (including marine bluffs or ravines). If drainage must be discharged from the area into adjacent waters, it shall be collected above the hazard, secured, and directed to the water by tight-line drain, with an energy-dissipating device at the point of discharge. All drainage systems in geologically hazardous areas must be designed and inspected by a geotechnical engineer.

Infiltration systems, such as stormwater detention and retention facilities, and curtain drains or french drains are prohibited in geologically unstable areas unless a geotechnical report indicates such facilities or systems will not affect slope stability. Systems in approved locations must be designed by a licensed civil engineer. The applicant's engineer shall also verify that the system and/or facilities are installed as designed.

New Point Discharges Over Geologically Hazardous Areas

New tightline conveyance systems traversing a geologically hazardous area or slope shall be designed with sufficient capacity to convey and contain (at minimum) the 100-year peak flow assuming full build-out conditions for all tributary areas, both onsite and offsite. The applicant must possess title or easement interest to the property over which a conveyance system and its discharge is proposed to be installed. In areas subject to the State Shoreline Management Act, all permits and approvals must be obtained prior to the installation of the system.

0. Covenant and Disclosure Statement

The Public Works Director/County Engineer will require a covenant between the owner(s) of the property and Island County. The contact person listed on the permit application will be contacted just prior to issuance of the Clearing and Grading Permit or underlying permit; and will be given a covenant that must be signed and notarized by the property owner and recorded with the auditor's office. The contact person is then responsible for bringing a copy of the recorded

covenant to the Permit Center at which time the Clearing and Grading Permit may be issued. A blank form of the Covenant is available at the Permit Center. See DIB #521 for additional information on the Covenant.

Waiver of Engineering Report Requirements

In very limited circumstances, the Public Works Director or County Engineer may waive some or all engineering report requirements. This may only occur when the proposal is very minor in nature and evidence exists that no impacts or hazards are likely to result from the proposal. An example may be a situation in which a small extension of an existing deck or an addition to the landward side of an existing home is proposed; grading quantities are less than 10 cubic yards and proposed to be carried out by hand; the bluff and existing residence were evaluated by a professional engineer at the time of original construction; or, the proposal is consistent with the existing geotechnical or engineering report and with the conditions of any previously-issued permit. In such cases a clearing and grading permit or review may still be required. In geologically hazardous areas, execution and recording of a Covenant and Disclosure statement is required if not previously reviewed by the County.

Construction of a new home in a geologically hazardous area or on a steep slope is *not* eligible for a waiver.

To apply for a waiver, submit the following along with an otherwise complete application:

- A letter requesting the waiver, specifying which report requirements the applicant wishes to have waived;
- Any previous engineering reports or studies done for the property;
- Explain how the grading work will be done and why it is considered minor in nature;
- A discussion of how existing and proposed drainage is or will be controlled;
- Copies of any previous grading permits issued for the property; and,
- An explanation of why no hazards or impacts will result from the proposal.

IMPORTANT NOTE - "Development Information Bulletins" (DIBs) are intended to assist the general public in understanding the effect of codes and regulations. DIBs are not complete statements of the laws and rules and should not be used as a substitute for them. If conflicts and questions arise, the code and regulations are the final authority. Because these regulations may be revised or amended at any time, consult Island County staff to be sure you understand all current requirements before beginning any work. It is the responsibility of the applicant to ensure that the project meets requirements of all current codes and regulations.

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