

SECTION 4.130: DEVELOPMENT REQUIREMENTS FOR GEOLOGIC HAZARD AREAS

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4.130(1) Purpose

The purpose of these Development Requirements for Geologic Hazard Areas is to protect people, lands and development in areas that have been identified as being subject to geologic hazards by:

- a) Identifying areas subject to natural hazards;
- b) Assessing the risks to life and property posed by development in areas of known natural hazard susceptibility; and
- c) Applying standards to the siting and design of development on lands subject to natural hazards that will reduce the risk to life and property from these hazards.

The provisions and requirements of this section are intended to provide for identification and assessment of risk from geologic hazards, and to establish standards that limit overall risk to the community from identified hazards to a level acceptable to the community. However, it must be recognized that all development in identified hazard areas is subject to increased levels of risk, and that these risks must be acknowledged and accepted by present and future property owners who proceed with development in these areas.

4.130(2) Applicability

The following areas are considered potentially geologically hazardous and are therefore subject to the requirements of this section:

- a) All lands partially or completely within categories of “high” and “moderate” susceptibility to shallow landslides as mapped in Oregon Department of Geology and Mineral Industries (DOGAMI) Open File Report O-20-13, Landslide hazard and risk study of Tillamook County, Oregon;

- b) All lands partially or completely within categories of “high” and “moderate” susceptibility to deep landslides as mapped in DOGAMI Open File Report O-20-13, Landslide hazard and risk study of Tillamook County, Oregon;
- c) All lands partially or completely within a “debris flow fan” as mapped in DOGAMI Open File Report O-20-13, Landslide hazard and risk study of Tillamook County, Oregon;
- d) All lands partially or completely within a rapidly moving landslide as mapped in DOGAMI IMS-22, GIS Overview Map of Potential Rapidly Moving Landslide Hazards in Western Oregon, 2002. All lands along the oceanfront.
- e) Lots or parcels where the average existing slopes are equal to or greater than 19 percent within or adjacent (contiguous) to hazard risk zones described in (a) through (d) above for any lot or parcel less than 20,000 square feet in size or lots or parcels where the average existing slopes are equal to or greater than 29 percent within or adjacent (contiguous) to hazard risk zones described in (a) through (d) above for any lot or parcel greater than 20,000 square feet in size where development is proposed.
- f) Any other documented geologic hazard area on file, at the time of inquiry, in the office of the Tillamook County Community Development Department. A “documented geologic hazard area” means a unit of land that is shown by reasonable written evidence to contain geological characteristics or conditions which are hazardous or potentially hazardous for the improvement thereof.

The publications referenced above are not intended to be used as a site-specific analysis tool. The County will use these publications to identify when a Geologic Hazard Review is needed on a property prior to development.

4.130(3) Geologic Assessment Review

- a) Except for activities identified in Subsection 3(b) of this section as exempt, any new development or substantial improvement (as defined in Article 11) in an area subject to the provisions of this section shall require a Geologic Assessment Review.
- b) The following development activities are exempt from the requirement for a Geologic Assessment Review:
 1. Maintenance, repair, or alterations to existing structures that do not alter the building footprint or foundation and do not constitute substantial improvement as defined in Article 11.
 2. Exploratory excavations under the direction of a certified engineering geologist or registered geotechnical engineer;

3. Construction of structures for which a building permit is not required;
 4. Yard area vegetation maintenance and other vegetation removal on slopes less than 25%;
 5. Forest operations subject to regulation under ORS 527 (the Oregon Forest Practices Act);
 6. Maintenance and reconstruction of public and private roads, streets, parking lots, driveways, and utility lines, provided the work does not extend outside the existing right-of-way boundary;
 7. Maintenance and repair of utility lines, and the installation of individual utility service connections;
 8. Emergency response activities intended to reduce or eliminate an immediate danger to life, property, or flood or fire hazard; and
 9. Beachfront protective structures subject only to regulation by the Oregon Parks and Recreation Department under OAR Chapter 736, division 20.
- c) Application, review, decisions, and appeals for a Geologic Assessment Review shall be a Type I procedure in accordance with Article 10. Applications for a Geologic Assessment Review may be made prior to or concurrently with any other type of application required for the proposed use or activity. Except for exempt activities listed under Section 4.130(3)(b), Geologic Assessment Review shall be completed prior to any ground disturbance.
- d) All applications for Geologic Assessment Review shall be accompanied by a Geologic Report prepared by a qualified geoprofessional (as defined in Article 11) that meets the content requirements of Section 4.130(4), at the applicant/property owner's expense.
- e) For development activities that are subject both to this section and Section 3.530: Beach and Dune Overlay Zone, one complete Geologic Report can be used for meeting the requirements of this section and Section 3.530.

4.130(4) Geologic Report (Engineering Geologic Report and Geotechnical Engineering Report) Standards

- a) For the purposes of Section 4.130, a Geologic Report refers to both engineering geologic reports and geotechnical engineering reports.
- b) The Geologic Report shall include the required elements of this section and one of the following:
 1. A statement from a certified geoprofessional that the use and/or activity can be accomplished without measures to mitigate or control the risk of

- geologic hazard to the subject property resulting from the proposed use and/or activity;
2. A statement from a certified geoprofessional that there is an elevated risk posed to the subject property by geologic hazards that requires mitigation measures in order for the use and/or activity to be undertaken safely sited on the property; or
- c) Geologic Reports required pursuant to this section shall be prepared consistent with standard geologic practices employing generally accepted scientific and engineering principles, and shall at a minimum contain the applicable provisions outlined in the Oregon State Board of Geologist Examiners publication "Guidelines for the Preparation of Engineering Geologic Reports", 2nd Edition, 5/30/2014 or other published best practice guidelines for engineering geologic or geotechnical engineering reports, consistent with current scientific and engineering principles. Reports shall reference the published guidelines upon which they are based.
 - d) For oceanfront property, Geologic Reports shall also address all the requirements of Section 3.530 (6)(f) to the extent applicable and based on best available information.
 - e) Geologic Reports required by this section shall include the following from the preparer(s) of the report:
 - a. A statement that all the applicable content requirements of this subsection have been addressed or are not applicable to the review. An explanation must be accompanied with any requirement identified as not applicable;
 - b. A description of the qualifications of the professional(s) that prepared the report; and
 - c. A statement by the preparer(s) that they have the appropriate qualifications to have completed the report and all its contents.
 - f) All Geologic Reports are valid for purposes of meeting the requirements of this section for a period of five (5) years from the date of preparation. Such reports are valid only for the development plan addressed in the report. Tillamook County assumes no responsibility for the quality or accuracy of such reports. Within that five-year period, the Planning Director can require at their discretion an addendum by a certified geoprofessional certifying that site conditions have not changed from the original report.

4.130(5) Decisions of Geological Assessment Reviews

A decision on a Geologic Assessment Review shall be based on the following standards:

- a) The Geologic Report shall meet the content standards set forth in Section 4.130(4).
- b) In approving a Geologic Assessment Review, the decision maker may impose any conditions which are necessary to ensure compliance with the provisions of this section or with any other applicable provisions of the Tillamook County Land Use Ordinance.
- c) In the event the decision maker determines that additional review of the Geologic Report by a qualified geoprofessional is necessary to determine compliance with this section, Tillamook County may retain the services of such a professional for this purpose. The applicant shall be responsible for all costs associated with the additional review. The results of that evaluation shall be considered in deciding on the Geologic Assessment Review.

4.130(6) Development Standards for Uses Subject to Review

In addition to the conditions, requirements and limitations imposed by a required Geologic Report, all uses subject to a Geologic Assessment Review shall conform to the following requirements:

- a) Hazard Disclosure Statement: All applications for new development or substantial improvements subject to Geologic Assessment Review shall provide a Hazard Disclosure Statement recorded with the Tillamook County Clerk's Office and signed by the property owner that acknowledges:
 - 1. The property is subject to potential natural hazards and that development thereon is subject to risk of damage from such hazards;
 - 2. The property owner has commissioned an engineering geologic report for the subject property, a copy of which is on file with Tillamook County Planning Department, and that the property owner has reviewed the Geologic Report and has thus been informed and is aware of the type and extent of hazards present and the risks associated with development on the subject property;
 - 3. The property owner accepts and assumes all risks of damage from natural hazards associated with the development of the subject property.
- b) Mitigation measures: If on-site structural mitigation measures are required as a condition of approval, the applicant shall, prior to the issuance of zoning compliance, record on the title to the subject property a notification that includes a description of the measures or improvements and that also specifies the obligation of the property owners to refrain from interfering with such measures or improvements and to maintain them.
- c) Safest site requirement: All new structures shall be limited to the recommendations, if any, contain in the Geologic Report; and

1. Property owners should consider use of construction techniques that will render new buildings readily moveable in the event they need to be relocated; and
 2. Properties shall possess access of sufficient width and grade to permit new buildings to be relocated or dismantled and removed from the site.
- d) Minimum Oceanfront Setbacks: In areas subject to the provisions of this section, the building footprint of all new development or substantial improvement subject to a Geologic Assessment Review shall comply with the requirements of Section 3.530(8) Oceanfront Setbacks.
- e) Erosion Control Measures: All uses subject to a Geologic Assessment Review shall address the following erosion control measure requirements, designed by a qualified geoprofessional:
1. Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion, stabilize the soil as quickly as practicable, and expose the smallest practical area at any one time during construction;
 2. Development plans shall minimize cut or fill operations so as to prevent off-site impacts;
 3. Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development;
 4. Permanent plantings and any required structural erosion control and drainage measures shall be installed as soon as practical;
 5. Provisions shall be made to effectively accommodate increased runoff caused by altered soil and surface conditions during and after development. The rate of surface water runoff shall be structurally retarded where necessary;
 6. Provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surface of fills by installation of temporary or permanent drainage across or above such areas, or by other suitable stabilization measures such as mulching, seeding, planting, or armoring with rolled erosion control products, stone, or other similar methods;
 7. All drainage provisions shall be designed to adequately carry existing and potential surface runoff from the twenty-year frequency storm to suitable drainageways such as storm drains, natural watercourses, or drainage swales. In no case shall runoff be directed in such a way that it significantly decreases the stability of known landslides or areas identified as unstable slopes prone to earth movement, either by erosion or increase of groundwater pressure;

8. Where drainage swales are used to divert surface waters, they shall be vegetated or protected as necessary to prevent offsite erosion and sediment transport;
 9. Erosion and sediment control devices shall be required where necessary to prevent polluting discharges from occurring. Control devices and measures which may be required include, but are not limited to:
 - i. Energy absorbing devices to reduce runoff water velocity;
 - ii. Sedimentation controls such as sediment or debris basins. Any trapped materials shall be removed to an approved disposal site on an approved schedule;
 - iii. Dispersal of water runoff from developed areas over large undisturbed areas.
 10. Disposed spoil material or stockpiled topsoil shall be prevented from eroding into streams or drainageways by applying mulch or other protective covering; or by location at a sufficient distance from streams or drainageways; or by other sediment reduction measures; and
 11. Such non-erosion pollution associated with construction such as pesticides, fertilizers, petrochemicals, solid wastes, construction chemicals, or wastewaters shall be prevented from leaving the construction site through proper handling, disposal, site monitoring and clean-up activities.
- f) Certification of compliance: Permitted development shall comply with the recommendations in the required Geologic Report. Certification of compliance shall be provided as follows:
- a. Plan Review Compliance: Building, construction or other development plans shall be accompanied by a written statement from a certified engineering geologist or licensed geotechnical engineer stating that the plans comply with the recommendations contained in the Geologic Report for the Geologic Assessment Review.
 - b. Inspection Compliance: Upon the completion of any development activity for which the Geologic Report recommends an inspection or observation by a certified engineering geologist or licensed geotechnical engineer, the certified engineering geologist or licensed geotechnical engineer shall provide a written statement indicating that the development activity has been completed in accordance with the applicable Geologic Report recommendations.
 - c. Final Compliance: No development requiring a Geologic Report shall receive final approval (e.g., certificate of occupancy, final inspection, etc.) until the department receives:

- i. A written statement from a certified engineering geologist or licensed geotechnical engineer indicating that all performance, mitigation, and monitoring measures specified in the Geologic Report have been satisfied;
 - ii. If mitigation measures incorporate engineering solutions designed by a licensed professional engineer, a written statement of compliance by the design engineer;
 - iii. A written statement by the qualified geoprofessional indicating that all erosion control measure requirements were met.
- g) Restoration and replacement of existing structures:
 - a. Notwithstanding any other provisions of this ordinance, application of the provisions of this section to an existing use or structure shall not have the effect of rendering such use or structure nonconforming as defined in Article 7.
 - b. Replacement, repair or restoration of a lawfully established building or structure subject to this section that is damaged or destroyed by fire, other casualty or natural disaster shall be permitted, subject to all other applicable provisions of this ordinance, and subject to the following limitations:
 - i. Replacement authorized by this subsection is limited to a building or structure not larger than the damaged/destroyed building.
 - ii. Structures replaced pursuant to this subsection along the oceanfront shall be located no further seaward than the damaged structure being replaced.
 - iii. Replacement or restoration authorized by this subsection shall commence within one year of the occurrence of the fire or other casualty which necessitates such replacement or restoration.
 - c. A building permit application for replacement, repair or restoration of a structure under the provisions of this subsection shall be accompanied by a Geologic Report prepared by a qualified geoprofessional that adheres to the Geologic Report Standards outlined in this section. All recommendations contained in the report shall be followed.
 - d. A building permit application for replacement, repair, or restoration authorized by this subsection shall be processed and authorized as Type I review pursuant to Section 10.020.

Add to:

TCLUO Article 11 Amendments: Definitions proposed to be added to Article 11

Geoprofessional: refers to a Registered Geologist (RG), Certified Engineering Geologist (CEG), and Geotechnical Engineer (GE).

- Registered Geologists (RG) provide geologic maps and documents, can identify relative hazards, and are licensed by the Oregon State Board of Geologist Examiners (OSBGE). RGs cannot imply or provide recommendations for the siting, design, modification, or construction of structures, unless supervised by a CEG. RGs are defined in ORS 675.505 and ORS 672.525.
- Certified Engineering Geologists (CEG) provide engineering geologic reports and are licensed by the Oregon State Board of Geologist Examiners (OSBGE). They apply geologic data, principles and interpretation to naturally occurring materials so that geologic factors affecting planning, design, construction and maintenance of civil engineering works are properly recognized and utilized. They can conduct geologic work to provide recommendations for the siting, design, modification, or construction of a structure. CEGs are defined in ORS 672.505 and ORS 672.525.
- A Geotechnical Engineer (GE) is a Professional Engineer (PE) with the specific training, expertise, and experience to qualify as a Geotechnical Engineer (GE). GEs can provide geotechnical engineering reports and are licensed by the Oregon Board of Examiners for Engineering and Land Surveying (OSBEELS). A GE can investigate and evaluate physical and engineering properties of earth materials, and design mitigation measures to reduce risk from natural hazards. As defined in Oregon Statute, Professional Engineers can only perform services in the areas of their competence. ORS 672.005, OAR 820-020.