

**ATTACHMENT C -
Alternate Amendment 2**

vegetation removal in very high risk landslide hazard areas

**ALTERNATE AMENDMENT 2 –
VEGETATION REMOVAL IN VERY HIGH RISK LANDSLIDE HAZARD
AREAS**

20.80.224 GEOLOGIC HAZARDS – Development standards.

A. Activities and uses shall be prohibited in geologic hazard areas and their required buffers except as provided for in this Title.

B. **Activities allowed in all geologic hazard areas and buffers.** The activities listed below are allowed in the identified geologic hazard areas types pursuant to SMC 20.80.0XX Allowed Activities. Additional exemptions are listed in SMC 20.80.030 and 20.80.040, but do not apply within the shoreline jurisdiction. These activities do not require submission of a critical area report.

1. All exempt activities per SMC 20.80.040, unless critical area report is required for the exemption;
2. Installation of fences as allowed without a building permit in Chapter 20.50 Development standards; and
3. Non-structural interior remodel, maintenance, or repair of structures which do not meet the standards of this chapter, if the maintenance or repair does not increase the footprint or height of the structure and there is no increased risk to life or property as a result of the proposed maintenance or repair.
4. **Landslide and Seismic Hazard Areas.** No additional activities allowed without submission of a critical area report in landslide and seismic hazard areas.
5. **Erosion Hazard Areas.** If the site does not contain another type of critical area or critical area buffer and does not exceed any other threshold contained in SMC 20.50.320, then up to 1,500 square feet may be cleared on any lot in an erosion hazard area without a permit.

C. **Alteration.** The City shall approve, condition, or deny proposals in a geologic hazard area as appropriate based upon the effective mitigation of risks posed to property, health and safety. The objective of mitigation measures shall be to render a site containing a geologic hazard as safe as one not containing such hazard. Conditions may include limitations of proposed uses, modification of density, alteration of site layout, and other appropriate changes to the proposal. Where potential impacts cannot be effectively mitigated to eliminate a significant risk to public health, safety and property, or important natural resources, the proposal shall be denied.

D. **Alteration of Moderate to High Risk Landslide Hazards.**

Development activities and uses that result in unavoidable alterations may be permitted in moderate to high risk landslide hazard areas or their buffers in accordance with an approved geologic hazard critical area report prepared by a qualified professional. The recommendations contained within the critical area report shall be incorporated into the proposed alteration of the landslide hazard area or their buffers.

The qualified professional preparing the report shall provide assurances that the risk of damage from the proposal, both on-site and off-site, are minimal subject to the conditions set forth in the report, that the proposal will not increase the risk of occurrence of the potential landslide hazard, and that measures to eliminate or reduce risks have been incorporated into the report's recommendations.

E. **Alteration of Very High Risk Landslide Hazard Areas.**

Development shall be prohibited in very high risk landslide hazards areas or their buffers except as granted by a critical areas special use permit, a critical areas reasonable use permit per SMC 20.30.333 and 20.30.336, unless otherwise allowed by the exemptions or allowed activities provisions of this Title, or subject to the provisions of the Shoreline Master Program, SMC Title 20, Division II, where the proposed development activity is located within the shoreline jurisdiction. Additionally, the following activities within Very High Risk Landslide Hazard Areas and recommended buffers may be allowed based upon City review of a geologic hazards critical area

Comment [j1]: Wavy underline is the alternate amendment language for proposed SMC 20.80.224.

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report and site development permit application.

1. Vegetation Clearing and Revegetation. Vegetation clearing, including tree removal, within very high risk landslide hazard area and/or recommended buffers may only occur for vegetation removal and replacement activities for which a hazards assessment and analysis of proposal is submitted as part of a critical area report consistent with SMC 20.80.240 and certifies that:

- a. The vegetation clearing and replacement will not increase surface water discharge, erosion, or sedimentation on site or to adjacent properties beyond pre-development conditions;
- b. The vegetation clearing and replacement will not decrease slope stability on the site or on adjacent properties, and will not cause erosion of the slope;
- c. Such vegetation clearing and replacement will meet other critical areas regulations; and
- d. The design standards in subsection (2) are met.

2. Design Criteria for Vegetation Removal and Replacement within Very High Risk Landslide Hazard Areas. Proposals for vegetation removal, including tree removal, and replacement within a very high risk landslide hazard area and/or recommended buffer shall be designed to meet the following basic requirements unless it can be demonstrated that an alternative design that provides greater short and long-term slope stability while meeting all other provisions of this Chapter. The requirement for long-term slope stability shall exclude project designs that require regular and periodic maintenance to maintain their level of function. The basic vegetation removal and replacement design criteria are:

- a. The proposed vegetation removal and replacement shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Where the existing conditions are below these limits the proposed project shall increase the factor of safety to these limits. Analysis of dynamic conditions shall be based on the seismic event as established by the current version of the International Building Code;
- b. Vegetation removal and replacement plans shall not require the installation of structures to maintain the short- and long- term stability of the landslide hazard area;
- c. Vegetation removal and replacement shall not require or include alterations to the natural contour of the slope;
- d. All replacement vegetation must be native species and must be consistent with the tree replacement requirements and site restoration standards in SMC 20.50.360;
- e. The proposed vegetation removal and replacement shall not result in greater risk or a need for increased buffers on neighboring properties;
- f. No new structures or hardscape may replace vegetation proposed to be removed; and
- g. The vegetation removal and replacement proposal must meet the requirements of SMC 20.80.240 Geologic Hazards – Critical area report requirements and of SMC 20.80.250 Geologic Hazards – Mitigation performance standards and requirements.

Comment [t2]: Many natural slopes will not have an FS as high as 1.5 (but engineered structures should be designed for at least 1.5). Natural slopes could be maintained at 1.3 for static and greater than 1.0 for seismic. Or the City could say no decrease in slope stability, but then an applicant could claim the existing slope is only at 1.1 and they will not cause a decrease, but the City may not want any disturbance to a 1.1 slope, or the City might want to see improvement to 1.3.

F. Alteration of Seismic Hazard Areas. Avoidance of alterations in seismic hazard areas per SMC 20.80.080(A) is not required. Development activities and uses that result in impact to seismic hazard areas may be permitted, consistent with SMC 20.80.055(B-F), in accordance with an approved geologic hazards critical area report prepared by a qualified professional. The report must provide assurances that the risk of damage from the proposal, both on-site and off-site, are minimal subject to the conditions set forth in the report, that the proposal will not increase the risk of occurrence of the potential hazard, and that measures to eliminate or reduce risks have been incorporated into the report's recommendations. The report must include the following:

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1. For one-story and two-story residential detached structures and all nonstructural projects, a qualified professional shall conduct an evaluation of site response and liquefaction potential based on current mapping, site reconnaissance, research of nearby studies; or
2. For all other proposals, the applicant shall conduct an evaluation of site response and liquefaction potential including sufficient subsurface exploration to determine the site coefficient for use in the static lateral force procedure described in the International Building Code.

G. Alteration of Erosion Hazard Areas. Development activities and uses in erosion hazard areas can be permitted, not subject to 20.80.055(A), based on review of a critical area report prepared by a qualified professional demonstrating that the project is consistent with SMC 20.80.055(B-F) and the following provisions:

1. All development proposals on sites containing erosion hazard areas shall include a stormwater pollution prevention plan consistent with the requirements of the adopted Stormwater Manual and a revegetation plan to ensure permanent stabilization of the site. Specific requirements for revegetation plans shall be determined on a case-by-case basis during permit review and administrative guidelines shall be developed by the Department. Critical area revegetation plans may be combined with required landscape, tree retention, and/or other critical area mitigation plans as appropriate.
2. All subdivisions, short subdivisions or binding site plans on sites with erosion hazard areas shall comply with the following additional requirements:
 - a. Except as provided in this section, existing vegetation shall be retained on all lots until building permits are approved for development on individual lots;
 - b. If any vegetation on the lots is damaged or removed during construction of the subdivision infrastructure, the applicant shall be required to implement the revegetation plan in those areas that have been impacted prior to final inspection of the site development permit or the issuance of any building permit for the subject property;
 - c. Clearing of vegetation on individual lots may be allowed prior to building permit approval if the City of Shoreline determines that:
 - i. Such clearing is a necessary part of a large scale grading plan,
 - ii. It is not feasible to perform such grading on an individual lot basis, and
 - iii. Drainage from the graded area will meet established water quality standards.
3. Where the City of Shoreline determines that erosion from a development site poses a significant risk of damage to downstream receiving water, the applicant shall be required to provide regular monitoring of surface water discharge from the site. If the project does not meet water quality standards, the City may suspend further development work on the site until such standards are met.
4. The City may require additional mitigation measures in erosion hazard areas, including, but not limited to, the restriction of major soil-disturbing activities associated with site development between October 1st and April 30th to meet the stated purpose contained in SMC 20.80.010 and 20.80.210.
5. The use of hazardous substances, pesticides and fertilizers in erosion hazard areas may be prohibited by the City of Shoreline.