ORDINANCE O-4643

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO ZONING, PLANNING, AND LAND USE AND AMENDING CHAPTER 85 OF THE KIRKLAND ZONING CODE REGARDING CRITICAL AREAS: GEOLOGICALLY HAZARDOUS AREAS ALONG WITH MINOR CODE AMENDMENTS TO KIRKLAND ZONING CODE CHAPTER 5: DEFINITIONS TO IMPLEMENT CHAPTER 85 TO ENSURE CONTINUED COMPLIANCE WITH THE GROWTH MANAGEMENT ACT, AND APPROVING A SUMMARY ORDINANCE FOR PUBLICATION, FILE NO. CAM17-00681.

WHEREAS, the Growth Management Act (GMS), specifically RCW 36.70A.130, mandates that the City of Kirkland take legislative action to review, and if needed, revise its Comprehensive Plan and development regulations to ensure continued compliance with the GMA (also known as "periodic review"); and

WHEREAS, on December 8, 2015, the City Council adopted Ordinance 4493 amending its Comprehensive Plan in compliance with the GMA; and

WHEREAS, on May 4, 2018, the Planning Commission and the Houghton Community Council did provide its recommendation to adopt the amendments to Chapter 85 of the Kirkland Zoning Code regarding Critical Areas and Geologically Hazardous Areas, and related minor code amendments to Chapter 5 of the Kirkland Zoning Code, as set forth in Attachments A and B of this ordinance, incorporated herein by reference, so as to bring the Code into compliance with the GMA; and

WHEREAS, by adoption of this ordinance the City has met its periodic review and update requirements under the GMA, RCW 36.70A.130.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Kirkland as follows:

Section 1. Findings of Fact to support the City's Process for conducting Periodic Review.

A. Based on the recommendation from the Planning Commission and the Houghton Community Council provided in the City Council memo dated May 4, 2018, and the proposed amendments recommended for approval by the Planning Commission and the Houghton Community Council, the City Council finds that that the City's review of the development regulations of Chapter 85 of the Kirkland Zoning Code regarding Critical Areas and Geologically Hazardous Areas, and related minor code amendments to Chapter 5 of the Kirkland Zoning Code, the identification of needed amendments, and the public participation process which was followed, comply with the City's requirement to conduct periodic review under the Growth Management Act, RCW 36.70A.

B. Amendments to the development regulations of Chapter 85 of the Kirkland Zoning Code and related minor code amendments to Chapter 5 of the Kirkland Zoning Code as adopted by this ordinance are consistent with the Growth Management Act and Best Available Science.

C. The City, in reviewing and revising its development regulations established procedures and schedules pursuant to RCW 36.70A.130(2). Public Participation included a community lecture on Kirkland's Geology and updated geologically hazardous area maps including an extensive question and answer period, emailed notice to the development community, establishing a listserv, information on web pages, public open houses and public meetings before the Planning Commission and Houghton Community Council, and staff memoranda on issues related to the code amendments.

D. Amendments to Chapter 85 of the Kirkland Zoning Code and related minor code amendments to Chapter 5 of the Kirkland Zoning Code were transmitted to the Washington State Department of Commerce on March 15, 2018, at least 60 days prior to adoption as required.

Section 2. Additional Findings of Fact to support the City's Amendments to Chapter 85 of the Kirkland Zoning Code.

A. The Planning Commission and Houghton Community Council held three study sessions, open to the public, on proposed revisions to Chapter 85 of the Kirkland Zoning Code and related minor code amendments to Chapter 5 of the Kirkland Zoning Code, and to consider public comments.

B. Public open houses on the proposed revisions to Chapter 85 of the Kirkland Zoning Code and related minor code amendments were held before the public lecture on December 11, 2017 and before the study sessions on January 11, 2018, before the public hearing on March 26, 2018; and before the study session on April 12, 2018.

C. The Planning Commission and the Houghton Community Council reviewed and considered the Best Available Science Technical Memo and Gap Analysis Matrix dated January 2018 prepared by Associated Earth Sciences Incorporated, in accordance with the requirements of the Growth Management Act in preparation of the proposed revisions to Chapter 85 and related minor code amendments to Chapter 5 of the Kirkland Zoning Code.

D. The criteria of Section 135.25 of the Kirkland Zoning Code, regarding amending the text of the Kirkland Zoning Code, were also considered and found to have been met.

E. The Planning Commission held a joint public hearing on the proposed revisions to Chapter 85 of the Kirkland Zoning Code and

related minor code amendments to Chapter 5 of the Kirkland Zoning Code with the Houghton Community Council on March 26, 2018, following notice as required by RCW 36.70A.035, to receive public comments and provide staff policy direction. The Planning Commission deliberated on the amendments on April 12, 2018 and the Houghton Community Council did the same on April 23, 2018.

F. The City Council has received a recommendation from the Kirkland Planning Commission and the Houghton Community Council for amendments to Chapter 85 of the Kirkland Zoning Code and certain related minor code amendments to Chapter 5 of Kirkland Zoning Code as set forth in the memo and recommendation from the Planning Commission and Houghton Community Council dated May 4, 2018, and bearing the Kirkland Planning and Building Department File No. CAM17-00681.

G. Pursuant to the State Environmental Policy Act (SEPA), Chapter 43.21C RCW, a SEPA Addendum to the Existing Environmental Documents was issued by the responsible official pursuant to WAC 197-11-625 on March 19, 2018.

H. In a regular public meeting on May 15, 2018, the City Council considered the proposed amendments, the environmental documents received from the responsible official, together with the recommendation from the Planning Commission and Houghton Community Council incorporated into a report from staff, and public comments.

Section 3. Based on the Findings of Fact set forth in Sections 1 and 2 above, Chapter 85 of the Kirkland Zoning Code is amended as set forth in Attachment A attached to this ordinance and incorporated herein by reference.

Section 4. Based on the Findings of Fact set forth in Sections 1 and 2 above, Chapter 5 of the Kirkland Zoning Code is amended as set forth in Attachment B attached to this ordinance and incorporated herein by reference.

Section 5. If any section, subsection, sentence, clause, phrase, part or portion of this ordinance, including those parts adopted by reference, is for any reason held to be invalid or unconstitutional by any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance.

Section 6. To the extent the subject matter of this ordinance is subject to the disapproval jurisdiction of the Houghton Community Council, this ordinance shall become effective within the Houghton Community Municipal Corporation only upon approval of the Houghton Community Council or the failure of said Community Council to disapprove this ordinance within 60 days of the date of the passage of this ordinance.

Section 7. Except as provided in Section 6, This ordinance shall be in full force and effect five days from and after its passage by the Kirkland City Council and publication, pursuant to Kirkland Municipal Code 1.08.017, in the summary form attached to the original of this ordinance and by this reference approved by the City Council, as required by law.

Section 8. A complete copy of this ordinance shall be certified by the City Clerk, who shall then forward the certified copy to the King County Department of Assessments.

Passed by majority vote of the Kirkland City Council in open meeting this 19th day of June, 2018.

Signed in authentication thereof this 19th day of June, 2018.

Amy Walen, Mayor

Attest:

Kathi Anderson, City Clerk

Approved as to Form:

Kevin Raymond, City Attorney

Publication Date: June 25, 2018

Chapter 85 – CRITICAL AREAS: GEOLOGICALLY HAZARDOUS AREAS

Sections:

85.05 User Guide

1. This chapter establishes special regulations that apply to development on property containing Geologically Hazardous Areas. These regulations add to and, in some cases, supersede other regulations of this code. See Chapter 95 KZC for additional regulations that address trees and other vegetation within and outside of Geologically Hazardous Areas.

2. If you are interested in developing property that contains a geologically hazardous area, or if you wish to participate in the City's decision on a proposed development on any of these areas, you should read this chapter.

3. For properties within jurisdiction of the Shoreline Management Act, see Chapter 83 KZC.

(Ord. 4252 § 1, 2010; Ord. 4010 § 3, 2005)

85.07 Purpose Statement

These regulations were prepared to comply with the Growth Management Act and implement the goals and policies of the City's Comprehensive Plan. The purpose of these regulations is to protect human life, property, and the environment. This purpose will be achieved by thoroughly evaluating development activity in Geologically Hazardous Areas using best available science.

85.10 Applicability

1. General – This chapter applies to any property that contains any of the following hazard areas, including those shown on critical areas maps relating to this chapter entitled "Landslide Susceptibility" and "Liquefaction Potential:

   a. An ~~e~~Erosion ~~h~~Hazard ~~a~~Area.

   b. A ~~l~~Landslide ~~h~~Hazard ~~a~~Area.

   c. A ~~s~~Seismic ~~h~~Hazard ~~a~~Area.

2. Conflict with Other Provisions of this Code – The provisions of this chapter supersede any conflicting provisions of this code. The other provisions of this code that do not conflict with the provisions of this chapter apply to property that contains a geologically hazardous area. If more than one (1) provision of this chapter applies to the subject property because of the presence on the subject property of more than one (1) type of Geologically Hazardous Area, then the regulations that provide the greatest protection from the hazardous area shall apply to the area governed by multiple regulations.

3. SEPA Compliance – Nothing in this chapter or the decisions made pursuant to this chapter in any way affect the authority of the City to review, approve, condition, and deny projects under SEPA.

85.12 Critical Area Maps

The City's critical area maps relating to this chapter are entitled "Landslide Susceptibility" and "Liquefaction Potential." The City also maintains general mapping of other known critical areas. These maps and other available resources (such as topographic maps, soils maps, and aerial photos) are intended only as guides. They depict the approximate location and extent of known critical areas. Some critical areas depicted in these resources may no longer exist and critical areas not shown in these resources may currently be present. The provisions of this chapter and the findings of a geotechnical report and review of the report by the City take precedence over the City's mapping in regard to identification and mitigation of potential geologic hazards. Site specific geologic hazard studies shall be conducted prior to approval of development, land surface modification, utility installation, or other activities to evaluate if a geologic hazard area actually exists, and to assess suitable options for hazard mitigation, if appropriate.

~~As part of the City's Comprehensive Plan, City Council from time to time amends the critical area maps. Included in the critical area maps is a map entitled "Geologically Hazardous Areas." The maps are used as a guide only to determine the presence of seismic hazards, erosion hazards, and landslide hazards, and the determination regarding whether these hazards exist on or near the subject property will be based on the actual characteristics of these areas and the definitions of this code.~~

(Ord. 4551 § 4, 2017)

~~**85.13 Definitions**~~

~~The following definitions apply throughout this code, unless, from the context, another meaning is clearly intended:~~

~~1. Erosion Hazard Areas – Those areas containing soils which, according to the USDA Soil Conservation Service King County Soil Survey dated 1973, may experience severe to very severe erosion hazard. This group of soils includes, but is not limited to, the following when they occur on slopes of 15 percent or greater: Alderwood gravelly sand loam (AgD), Kitsap silt loam (KpD), Ragnar-Indianola Association (RdE) and portions of the Everett gravelly sand loams (EvD) and Indianola Loamy fine sands (InD).~~

~~2. Geologically Hazardous Areas – Landslide hazard areas, erosion hazard areas and seismic hazard areas.~~

~~3. Landslide Hazard Areas – Both of the following:~~

~~a. High Landslide Hazard Areas – Areas sloping 40 percent or greater, areas subject to previous landslide activities and areas sloping between 15 percent and 40 percent with zones of emergent groundwater or underlain by or embedded with impermeable silts or clays.~~

~~b. Moderate Landslide Hazard Areas – Areas sloping between 15 percent and 40 percent and underlain by relatively permeable soils consisting largely of sand and gravel or highly competent glacial till.~~

~~4. Seismic Hazard Areas – Those areas subject to severe risk of earthquake damage as a result of seismically induced settlement or soil liquefaction, which conditions occur in areas underlain by cohesionless soils of low density usually in association with a shallow groundwater table.~~

(Ord. 4551 § 4, 2017)

85.14 Erosion Hazard Areas

Regulations to control erosion are contained within KMC Title 15 and in other codes and ordinances of the City. Development activity within erosion hazard areas is regulated using these other provisions of this code and other City codes and ordinances and may be subject to increased scrutiny and conditioning because of the presence of an Erosion Hazard Area.

85.15 Required Information ~~– Landslide Hazard Areas and Seismic Hazard Areas~~
The City may require the applicant to submit some or all of the following information, consistent with the nature and extent of the proposed development activity, for any proposed development activity in a ~~landslide hazard area or seismic hazard area or on property which may contain one (1) of these areas based on the~~ Geologically Hazardous Areas~~ maps or preliminary field investigation by the Planning Official~~:

1. A topographic survey of the subject property, or the portion of the subject property specified by the Planning Official, with two-foot contour intervals ~~specified by the Planning Official~~. This mapping shall contain the following information:

   a. Delineation of areas containing slopes 15 percent or greater, and identification of slopes 40 percent or greater.

   b. ~~The proximity of the subject property to~~ ~~w~~Wetlands, streams and lakes on or adjacent to the subject property.

   c. The location of ~~structured~~ storm drainage ~~systems~~ facilities on the subject property.

   d. Existing vegetation, including size and type of significant trees.

2. A geotechnical investigation, prepared by a ~~qualified~~ geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State, to determine if a landslide hazard area or seismic hazard area exists on the subject property.

3. A geotechnical report, prepared by a ~~qualified~~ geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State, showing and including the following information:

   a. A description of how the proposed development will or will not affect slope stability, surface and subsurface drainage, erosion, and seismic hazards on the subject property and other potentially impacted ~~adjacent~~ properties.

   b. Evidence, if any, of holocene or recent landsliding, sloughing, or soil creep.

   c. The location of springs, seeps, or any other surface expression of groundwater, and the location of surface water or evidence of seasonal runoff or groundwater.

   d. Identification of existing fill areas.

   e. Soil description in accordance with the Unified~~ted~~ Soil Classification Systems.

   f. Depth to groundwater and estimates of potential seasonal fluctuations, if applicable to the project.

   g. Subsurface exploration logs that assess geologic hazards at the site, meaning that soil descriptions on the logs shall be in accordance with the Unified Soil Classification System. In addition, the logs shall also identify each of the geologic units encountered (e.g., fill, Vashon lodgement till, Vashon advance outwash).

   h. If the subject property is located within 100 feet of a High Landslide Hazard area, then a current LiDAR-based shaded relief map of the project area and a discussion of the licensed geotechnical professional's interpretation of this mapping must be provided.

   i. Results of a Quantitative Slope Stability Analysis for any project involving development within a horizontal distance "H" of a High Landslide Hazard Area where "H" is equal to the height of the slope within the High Landslide Hazard Areas or 50 feet, whichever is greater. The evaluation of slope stability under seismic conditions shall be based on a horizontal ground acceleration equal to ½ of the peak horizontal ground acceleration with a 2 percent in 50-year probability of exceedance as defined in the current version of the *International Building Code*.

j. A discussion of the presence or absence of site features potentially indicative of historic landslide activity or increased risk of future landslide activity. Such features include, but are not limited to, tree trunk deformation, emergent seepage, landslide scarps, tension cracks, reversed slope benches, hummocky topography, vegetation patterns, and area stormwater management practices.

k. Estimate of the magnitude of seismically induced settlement that could occur during a seismic event for any project involving development within a Seismic Hazard Area. Estimation of the magnitude of seismically induced settlement shall be based on a peak horizontal ground acceleration based on a seismic event with a 2 percent in 50-year probability of exceedance as defined in the current version of the *International Building Code*. This requirement may be waived if it can be demonstrated that construction methods will mitigate the risk of seismically induced settlement such that there will be no significant impacts to life, health, safety and property.

l. A summary or abstract of the geotechnical report for the property where the development activity is proposed. The abstract shall at a minimum include the type of hazard, extent of the hazard, hazard analysis and geologic conditions.

m. The geotechnical report shall state that the project can be undertaken safely as long as the measures/recommendations of the geotechnical report are incorporated into the project plans.

4. Geotechnical recommendations, prepared by a ~~qualified~~ geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State, for special engineering or other mitigation techniques appropriate to the hazard area along with an analysis of how these techniques will affect the subject, ~~and~~ adjacent and potentially impacted properties, including discussions and recommendations on the following:

a. The present stability of the subject property, the stability of the subject property during construction, the stability of the subject property after all development activities are completed and a discussion of the relative risks and slide potential relating to adjacent and other potentially impacted properties during each stage of development.

b. Location of buildings, roadways, and other improvements.

c. Grading and earthwork, including compaction and fill material requirements, use of site solids as fill or backfill, imported fill or backfill requirements, height and inclination of both cut and fill slopes and erosion control and wet weather construction considerations and/or limitations.

d. Foundation and retaining wall design criteria, including bearing layer(s), allowable capacities, minimum width, minimum depth, estimated settlements (total and differential), lateral loads, and other pertinent recommendations.

e. Surface and subsurface drainage requirements and drainage material requirements.

f. Assessment of seismic ground motion amplification and liquefaction potential.

g. Other measures recommended to reduce the risk of slope instability.

h. Any additional information believed to be relevant by the geotechnical engineer preparing the recommendations or requested by the Planning Official.

(Ord. 4551 § 4, 2017)

85.20 Required Review ~~—Landslide Hazard Areas and Seismic Hazard Areas~~

1. General – Except as specified in subsection (2) of this section, the ~~City~~ Planning Official will ~~administratively~~ review and decide upon any proposed development activity within a Geologically Hazardous Area.

2. Other Approval Required – If the proposed development on the subject property requires approval through Process I, IIA, or IIB, described in Chapters 145, 150, and 152 KZC, respectively, the proposed development activity within the ~~landslide hazard area or seismic hazard area~~ Geologically Hazardous Area will be reviewed and decided upon as part of that other process.

3. The decision on a proposed project shall be to approve, deny or approve with conditions.

4. The City may modify any decision, prior to completion of the project, made under this section when it has been determined that physical circumstances have markedly and demonstrably changed on the subject property or the surrounding areas as a result of natural processes or human activity. This authority does not include requiring removal of structures or additions to structures that have been legally constructed under this decision.

85.22 Peer Review

1. For projects that would disturb land located in High Landslide Hazard Areas, and including those areas within a horizontal distance "H" equal to the height of the slope or 50 feet, whichever is greater, the City shall require applicant funding of a licensed in Washington State geotechnical engineer or licensed in Washington State engineering geologist, selected and retained by the City subject to a third party contract, to review the geotechnical report and recommendations.

2. For projects to which KZC 85.22.1 is not applicable but that are located within Moderate Landslide Hazard Areas or a Seismic Hazard Area, the City shall normally require applicant funding of a licensed in Washington State geotechnical engineer or licensed in Washington State engineering geologist, selected and retained by the City subject to third party contract, to review the geotechnical report and recommendations. The Planning Official may waive the third party review requirement in some cases. Guidance criteria to be considered by the Planning Official when evaluating if third party review will be waived, include, but is not necessarily limited to, any of the following:

    a. City staff have the technical expertise of code requirements and knowledge of best practices to review the submitted geotechnical materials;
    b. The consequences of failure present a low level of risk (e.g., type of structure proposed, slope height, surrounding topography or structures);
    c. There is not any presence of known, recent landslide activity (i.e., anytime after the last continental glaciation, during the Holocene period) that presents a potential heightened landslide hazard risk;
    d. Stormwater infiltration or stormwater facilities that could potentially impact slope stability are not proposed; or
    e. Slopes that are the result of legally permitted grading activity.

3. For projects subject to peer review, the recommendations of the peer review shall be addressed in a revised geotechnical report (or supplement to the originally-prepared report).

85.25 Performance Standards ~~—Landslide Hazard Areas and Seismic Hazard Areas~~
(See also Chapter 95 KZC)

As part of any approval of development in a Landslide Hazard Area or Seismic Hazard Area, the City may require the following to protect property and persons:

1. Implementation of the geotechnical recommendations to mitigate identified impacts and geologic hazards, including the retention of trees, shrubs, and groundcover, and if applicable, the immediate implementation of a revegetation plan~~, along with a written acknowledgment on the face of the plans signed by the architect, engineer, and/or designer that he/she has reviewed the geotechnical recommendations and incorporated these recommendations into the plans~~.

2. ~~Funding of a qualified geotechnical engineer or engineering geologist, selected and retained by the City subject to a 3-party contract, to review the geotechnical report and recommendations.~~ Written acknowledgement from the licensed in Washington State geotechnical engineer or licensed in Washington State engineering geologist who prepared the report required by KZC 85.15 that they have reviewed the project plans and that they conform to their recommendations.

3. That a qualified geotechnical professional, working under the supervision of a geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State, be present on-site during land surface modification and foundation installation activities, and submittal by a geotechnical engineer licensed in Washington State or engineering geologist licensed in Washington State of a final report prior to occupancy, certifying substantial compliance with the geotechnical recommendations and geotechnical-related permit requirements.

~~4. The retention of any and all trees, shrubs, and groundcover, and implementation of a revegetation plan including immediate planting of additional vegetation.~~

~~5~~4. Specifically engineered foundation and retaining wall designs.

~~6~~5. The review of all access and circulation plans by the Department of Public Works.

~~7~~6. Limitation or restriction of any development activity that may:

a. Significantly impact slope stability ~~or drainage patterns~~ on the subject property or other ~~or adjacent~~ properties;

b. Significantly alter drainage patterns in a manner that would adversely impact the subject property or other properties;

~~b~~c. Cause serious erosion hazards, sedimentation problems or landslide hazards on the subject property or other ~~adjacent~~ properties; or

~~c~~d. Cause property damage or injury to persons on or off the subject property.

7. If a Quantitative Slope Stability Analysis is required with the geotechnical report, as specified in KZC 85.15.3(i), the proposed development shall provide a Factor of Safety of at least 1.5 for static conditions and at least 1.1 for seismic conditions.

8. Dedication of one (1) or more natural greenbelt protective easements or tracts.

(Ord. 4010 § 3, 2005)

85.30 Appeals

All ~~classifications,~~ final land use decisions~~,~~ and determinations made under this chapter are appealable using~~, except as stated below,~~ the applicable appeal provisions of ~~Chapter 145 KZC:~~ the underlying development permit.

~~1. The appeal may~~ shall ~~be filed by the applicant or any other aggrieved person within 15 days of the date of the~~ issuance ~~of the City's written classification, determination, or decision.~~

~~2. If a proposed development activity on the subject property required approval through Process IIA or IIB, described in Chapters 150 and 152 KZC, respectively, any appeal of a classification, determination, or decision under this chapter will be heard as part of that other process.~~

85.35 Bonds

The City may require a bond under Chapter 175 KZC and/or a perpetual landscape maintenance agreement to ensure compliance with any aspect of this chapter or any decision or determination made under this chapter.

85.40 Dedication
The City may require that the applicant dedicate development rights, air space, or an open space easement to the City to ~~ensure the protection of any~~ avoid impacts associated with a Landslide Hazard Area or Seismic Hazard Area on the subject property.

85.45 Liability
Prior to issuance of any development permit, the applicant shall enter into an agreement with the City, which runs with the property, in a form acceptable to the City Attorney, indemnifying the City for any damage resulting from development activity on the subject property which is related to the physical condition of the property. The applicant shall record this agreement with the King County Recorder's Office and provide evidence to the City that the agreement has been recorded.

(Ord. 4491 § 11, 2015)

~~**85.50 Request for Determination**~~
~~1. General. The determination of whether a geologically hazardous area exists on the subject property and the boundaries of that geologically hazardous area will normally be made when the applicant applies for a development permit for the subject property. However, a property owner may, pursuant to the provisions of this section, request a determination from the City regarding whether a geologically hazardous area exists on the subject property and the boundaries of the geologically hazardous area.~~

~~2. Application Information. The applicant shall submit a letter of request along with a vicinity map and site plan indicating the location of the potential geologically hazardous area and other information, as appropriate.~~

~~3. Review. A request for determination of whether a geologically hazardous area exists on the subject property, the location of the geologically hazardous area, and the type of geologically hazardous area will be made using the definitions, procedures, and criteria of this chapter, as appropriate.~~

~~4. Decision. Determinations regarding geologically hazardous areas pursuant to this section will be made by the Planning Official.~~

~~5. Appeals. Appeals from decisions made under this section will be reviewed and decided upon pursuant to KZC 85.30.~~

~~6. Effect. Any decision made under this section will be used by the City in any development activity proposed on the subject property for which an application is received within two (2) years of the final decision of the City under this section; provided, that the City may modify any decision made under this section any time physical circumstances have markedly and demonstrably changed on the subject property or the surrounding areas as a result of natural processes or human activity.~~

85.50 Notice of Geologic Hazard

Prior to final inspection of any development permit, the applicant shall record (unless legally prohibited from doing so), on the title of the property, a notice stating that the property is potentially located in a Geologically Hazardous Area. This notice will inform future owners that, at the time of the permit's issuance, the property was potentially located in a Geologically Hazardous Area.

CHAPTER 5 - DEFINITIONS

Definitions – KZC Chapter 5

5.20.178.5 Critical Area Maps - Maps ~~contained in the Kirkand Comprehensive Plan~~ maintained by the Department of Planning and Building ; specifically Geologically Hazardous Areas Map for Chapter 85 KZC, and Wetlands, Streams and Lakes Map for Chapter 90 KZC. (Ord. 4551 § 4, 2017)

Erosion Hazard Areas – Those areas containing soils which, according to the United States Department of Agriculture (USDA) Natural Resource Conservation Services (NRCS) *Web Soil Survey*, may experience severe to very severe erosion hazard. Due to potential for mapping errors and other discrepancies in the NRCS data, Erosion Hazard Area designation should be based on actual site conditions as verified in the field by the geotechnical professional.

Factor of Safety- The ratio of forces that resist sliding to the forces that drive sliding.

Geologically Hazardous Areas – Landslide Hazard Areas, Erosion Hazard Areas and Seismic Hazard Areas.

High Landslide Hazard Areas

1. Areas that have shown movement during the Holocene epoch (from 10,000 years ago to the present) or that are underlain or covered by mass wastage debris of that epoch, or
2. Areas with both of the following characteristics:
   A. Slopes steeper than 15 percent that intersect geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment, and
   B. Springs
   or
3. Areas potentially unstable because of rapid stream incision, stream bank erosion, or undercutting by wave action, or

4. Any area with a slope of 40 percent or steeper over a height of at least 10 feet.

5. For areas meeting the criteria of 1 through 4 above, the High Landslide Hazard Area also includes the area within a horizontal distance "H" equal to either the height of the slope or 50 feet, whichever is greater.

Landslide Hazard Area – Areas at risk of mass movement due to a combination of geologic, topographic, and hydrologic factors. Includes High and Moderate Landslide Hazard Areas.

Moderate Landslide Hazard Area – Areas with slopes between 15 percent and 40 percent which do not meet the definition of High Landslide Hazard Area.

Seismic Hazard Areas – Those areas subject to severe risk of earthquake damage as a result of seismically induced ground shaking, slope failure, settlement or soil liquefaction, which typically occurs in areas underlain by cohesionless soils of low density, usually in association with a shallow groundwater table.

Quantitative Slope Stability Analysis – A study performed to assess the safe design of human-made or natural slopes and the equilibrium conditions.

PUBLICATION SUMMARY
OF ORDINANCE O-4643

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO ZONING, PLANNING, AND LAND USE AND AMENDING CHAPTER 85 OF THE KIRKLAND ZONING CODE REGARDING CRITICAL AREAS: GEOLOGICALLY HAZARDOUS AREAS ALONG WITH MINOR CODE AMENDMENTS TO KIRKLAND ZONING CODE CHAPTER 5: DEFINITIONS TO IMPLEMENT CHAPTER 85 TO ENSURE CONTINUED COMPLIANCE WITH THE GROWTH MANAGEMENT ACT, AND APPROVING A SUMMARY ORDINANCE FOR PUBLICATION, FILE NO. CAM17-00681.

SECTION 1. Established findings of fact to demonstrate that the City followed all proper procedures for periodic review of the City's critical area ordinance, geologically hazardous areas, Chapter 85 of the Kirkland Zoning Code, and related minor code amendments to the Zoning Code so as to bring the Codes into compliance with the Growth Management Act (GMA).

SECTION 2. Establishes additional findings of fact to support amendments to Chapter 85 of the Kirkland Zoning Code and related minor code amendments to the Zoning Code as to bring the Codes into compliance with the GMA.

SECTION 3. Amends Chapter 85 of the Kirkland Zoning Code.

SECTION 4. Amends Chapter 5 of the Kirkland Zoning Code relating to amendments to Chapter 85 of the Zoning Code.

SECTION 5. Provides a severability clause for the Ordinance.

SECTION 6. Establishes that this ordinance, to the extent it is subject to disapproval jurisdiction, will be effective within the disapproval jurisdiction of the Houghton Community Council Municipal Corporation upon approval by the Houghton Community Council or the failure of said Community Council to disapprove this ordinance within 60 days of the date of the passage of this ordinance.

SECTION 7. Authorizes the publication of the ordinance by summary, which summary is approved by the City Council pursuant to Section 1.08.017 Kirkland Municipal Code and establishes the effective date as May 20, 2018, after publication of summary.

SECTION 8. Directs the City Clerk to certify and forward a complete certified copy of this ordinance to the King County Department of Assessments.

The full text of this Ordinance will be mailed without charge to any person upon request made to the City Clerk for the City of Kirkland.

The Ordinance was passed by the Kirkland City Council at its meeting on the 19th day of June, 2018.

I certify that the foregoing is a summary of Ordinance O-4643 approved by the Kirkland City Council for summary publication.

Kathi Anderson, City Clerk