

Appendix B: Critical Areas Regulations in Shoreline Jurisdiction

Note to Reader: Per Ecology’s recommendations, these critical area regulations have been adapted from the County’s current draft Critical Areas Ordinance to ensure consistency with the State’s Guidelines.

Critical Areas Regulations

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Chapter 1 - General Provisions

Commented [DN1]: Chapter 1 has been adapted to remove language that conflicts with the SMP (e.g. critical area exemptions, exceptions, variances, etc.)

1.1 Purpose.

The purpose of this appendix is to establish regulations pertaining to shoreline development in designated critical areas, as defined by the Washington State Growth Management Act (GMA) (RCW 36.70A). Critical areas, all of which are present in Klickitat County, include: Critical aquifer recharge areas, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, and wetlands.

1.2 Process for Critical Areas Review.

A. Administrative Procedures and Rules. The administrative procedures followed during the critical area review process shall conform to the standards and requirements of all development and alterations. This shall include, but not be limited to, timing, appeals, and fees associated with applications covered by this Master Program.

B. General Requirements

1. **Submittal.** Prior to the County's consideration of any proposed alteration or development not found to be exempt or excluded under this Master Program, the applicant shall submit to the County a complete Critical Areas Checklist regarding the critical area on the application for the underlying development, on forms provided by the County.
2. As part of critical areas review, the County shall:
 - i. Verify the information submitted by the applicant;
 - ii. Evaluate the project area and vicinity for critical areas and buffers;
 - iii. Determine whether the applicant is required to seek additional critical area consultation with qualified professionals and/or agencies, which may include a joint site visit with County staff, agency staff, and/or qualified professionals;
 - (1) This additional consultation may be required for, but is not limited to, areas which contain unmapped critical areas and/or difficult mitigation circumstances.
 - iv. Determine whether the proposed development is likely to impact the functions or values of critical areas; and
 - v. Determine if the proposed development avoids impacts or adequately addresses the impacts to the critical area and buffer

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associated with the alteration or development.

3. Make a review determination:

- i. **No Critical Areas Present.** If after review, the Director's analysis indicates that the project area is not within or adjacent to a critical area or buffer and that the proposed alteration or development is unlikely to degrade the functions or values of a critical area, then the Director shall rule that the critical area review is complete and note on the underlying application the reasons that no further review is required. A summary of this information shall be included in any staff report or decision on the underlying permit.
- ii. **Critical Areas Present, but No Impact – Waiver.** If the Director determines there are critical areas within or adjacent to the project area, but that the best available science shows that the proposed alteration or development is unlikely to degrade the functions or values of the critical area(s) or buffer(s), the Director may waive the requirement for a critical areas report. A waiver may be granted if there is substantial evidence that all of the following requirements will be met:
 - (1) There will be no alteration of the critical area or associated buffer;
 - (2) The development proposal will not negatively impact a critical area or buffer.
- iii. **Critical areas may be affected by proposal.** If the Director determines that a critical area or areas or buffer(s) may be affected by the proposal, then the Director shall notify the applicant that a critical areas report must be submitted prior to further review of the project, as described in Chapter 1.12.A. The Director may use the following indicators to assist in determining the need for a critical areas report:
 - (1) Indication of a critical area on critical areas maps that may be impacted by the proposed alteration or development;
 - (2) Information and scientific opinions from appropriate agencies, including but not limited to the Washington State Departments of Fish and Wildlife and Ecology;
 - (3) Documentation, from a scientific or other reasonable source, of the possible presence of a critical area; or

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(4) A finding by a qualified professional that a critical area may exist on or adjacent to the site of the proposed alteration or development.

iv. **Effect of Director's Determination.** A determination regarding the apparent absence of one or more critical areas by the Director is not an expert certification regarding the presence of critical areas and the determination is subject to possible reconsideration and reopening if new information is received. If the applicant wants greater assurance of the accuracy of the critical area review determination, the applicant may choose to hire a qualified professional to provide such assurances.

C. **Request for Technical Assistance.** The Director may engage technical consultants or agencies of expertise to provide third party review and interpret critical area data and findings submitted by or on behalf of the applicant in instances where County staff lack the resources or expertise to review these materials. An applicant may be required to pay for or reimburse the County for the review costs incurred.

1.3 Critical Areas Report.

A. Critical Areas Reports

1. **Valid Time Period.** When required in accordance with this Master Program, the applicant shall submit a critical areas report. Critical areas reports are valid for five years from the date of completion, or date of the corresponding delineation documentation, if applicable.
2. **Preparation by Qualified Professional.** The critical areas report shall be prepared by a qualified professional as defined in Appendix A, Glossary, of this Master Program.
3. **Incorporation of Best Available Science.** The critical areas report shall use scientifically valid methods and studies in the analysis of critical area data and field reconnaissance to evaluate the proposed development and all probable impacts to critical areas in accordance with the provisions of this Master Program. The report shall reference the source(s) of science used.
4. **Minimum Report Contents.** At a minimum, the report shall contain the following:
 - i. The name and contact information of the applicant and a description of the proposal;

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- ii. The site plan for the proposed development, including a map drawn to scale depicting critical areas, buffers and/or setbacks, the proposed development, and any areas to be cleared or altered;
- iii. The names and qualifications of the persons preparing the report;
- iv. Documentation of any fieldwork performed on the site;
- v. Documentation that consultation and/or coordination with agencies of expertise occurred, when appropriate;
- vi. Identification and characterization of all critical areas and buffers on and adjacent to the proposed development;
- vii. A statement specifying the accuracy of the report, and all assumptions made and relied upon;
- viii. A discussion of the performance standards applicable to the critical area and proposed development; and
- ix. A mitigation plan in accordance with Section 1.4.B of this appendix, if mitigation is required.

5. **Habitat Management Plans.** If the critical area is classified as a Fish and Wildlife Conservation Area, a Habitat Management Plan may be required if the standard riparian buffer width can't be met. Habitat Management Plans must meet the minimum report requirements of critical area reports in this section, as well as the additional requirements outlined in Chapter 3, Fish and Wildlife Habitat Conservation Areas.

1.4 Critical Areas Mitigation.

- A. **Mitigation Sequence.** Adverse impacts caused by new alterations and developments shall be mitigated using the mitigation sequence order of priorities in Section 4.4.1, Ecological Protection and Critical Areas, of this Master Program.
- B. **Mitigation Plans.** When mitigation is required, the applicant shall submit a mitigation plan. The mitigation plan shall include all the following:
 1. **Mitigation Sequencing.** A description of reasonable efforts made to apply mitigation sequencing pursuant to subsection A above to avoid, minimize, and mitigate impacts to critical areas and buffers;
 2. **Mitigation Details.**
 - i. A description of the anticipated impacts to the critical area and

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buffer, including impacts to critical area functions and values;

- ii. The mitigating actions proposed, including: type of mitigation proposed (e.g., on-site or off-site); site selection criteria; identification of compensation goals; and identification of critical area functions.
 - iii. The environmental goals and objectives of the mitigation, together with specific measurable criteria and performance standards for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained;
 - iv. An analysis of the likelihood of success of the mitigation project based on best available science.
3. **Construction Details.** The mitigation plan shall include written specifications, descriptions, and drawings of the mitigation proposed, including:
- i. Construction sequence, timing, and duration;
 - ii. Grading and excavation details;
 - iii. Erosion and sediment control features; and
 - iv. Planting plan specifying plant species, quantities, locations, size, spacing, density, and measures to protect and maintain plants until established. All plant species must be native to the region.

4. **Monitoring Details.**

- i. A program for monitoring construction and assessing the outcome of the mitigation project, including the schedule for site monitoring (for example, describe how monitoring may occur in years 1, 2, 3 and 5 after site construction), and how the monitoring data will be evaluated to determine if the performance standards are being met. Monitoring reports shall be submitted to the County to document milestones, successes, problems, and contingency actions of the compensation project. The mitigation project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five (5) years. Mitigation monitoring shall be the responsibility of the applicant, and monitoring reports will be reviewed by County staff to ensure that performance standards are being met.
- ii. A contingency plan with courses of action and corrective measures

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to be taken if monitoring or evaluation indicates project performance standards are not being met, including a possible extension of the monitoring period until it can be shown that performance standards are being met.

- iii. The mitigation plan shall include financial guarantees ensuring fulfillment of the compensation project, monitoring program, and any contingency measures in accordance with Subsection 1.4.C, Financial Guarantees.
- iv. The mitigation plan shall address any additional mitigation requirements relevant to the specific critical area as specified in the area-specific requirements.

C. Financial Guarantees.

1. For all projects with an estimated mitigation cost of \$10,000 or more, the Director may require financial assurance which will guarantee compliance with the mitigation plan if the mitigation proposed in the site assessment cannot be completed prior to final approval of the development permit.
2. When mitigation is required for a proposed development but is not completed prior to the County's final permit approval, such as final plat approval or final building inspection and exceeds the mitigation of \$10,000, the applicant shall post a financial guarantee to ensure work will be completed and meet the stated environmental objectives. Where financial guarantees are required by other state or federal agencies for specific mitigation features, additional financial guarantees for those features are not required under this provision.
3. The financial guarantee shall be in the amount of one hundred and twenty-five percent (125%) of the estimated cost of the uncompleted actions and/or the estimated cost of restoring the functions and values of the critical area(s) that is at risk. The guarantee amount shall be based on an itemized cost estimate of the mitigation activity including clearing and grading, plant materials, plant installation, irrigation, weed management, monitoring, and other costs.
4. The financial guarantee may be in the form of an Assignment of Fund, or other form acceptable to the County Treasurer, with terms and conditions acceptable to the Klickitat County attorney.
5. The financial guarantee shall remain in effect until the Director determines, in writing, that the standards bonded for have been met. Financial guarantees for wetland or stream compensatory mitigation shall be held for a minimum of five (5) years after completion of the work to

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ensure that the required mitigation has been fully implemented and demonstrated to function and may be held for longer periods when necessary.

6. Public development proposals shall be relieved from having to comply with the bonding requirements of this Chapter if public funds have previously been committed for mitigation, maintenance, monitoring, or restoration.
7. Any failure to satisfy critical area requirements established by law or condition, including but not limited to the failure to provide a monitoring report within thirty (30) days after it is due or comply with other provisions of an approved mitigation plan, shall constitute a default, and the Director may demand payment of any financial guarantees or require other action authorized by Klickitat County code or any other law.
8. Any funds recovered pursuant to this Chapter shall be used to complete the required mitigation. The County shall use such funds to arrange for completion of the project or mitigation, and follow-up corrective actions.
9. Depletion, failure, or collection of financial guarantees shall not discharge the obligation of an applicant or violator to complete required mitigation, maintenance, monitoring, or restoration.

D. Mitigation Banking and In-Lieu Fee Mitigation. The County may approve mitigation banking and/or in-lieu fee mitigation as a form of compensatory mitigation for wetland and fish and wildlife habitat conservation area impacts when the provisions of this appendix require mitigation and when the use of a mitigation bank/in-lieu fee program will provide equivalent or greater replacement of critical area functions and values when compared to conventional permittee-responsible mitigation. Mitigation banks and in-lieu fee program shall only be used when it can be demonstrated that they provide significant ecological benefits including long-term conservation of critical areas, important species, habitats and/or habitat linkages, and when they are documented to provide a viable alternative to the piecemeal mitigation for individual project impacts to achieve ecosystem-based conservation goals. Mitigation banks and in-lieu fee programs shall not be used unless they are certified in accordance with applicable federal and state mitigation rules and expressly authorized through County legislative action.

Chapter 2 - Wetlands

2.1 Purpose.

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The purpose of this chapter is to provide standards for classification and designation of wetlands; and provide guidance for protecting those wetlands necessary to maintain the public health, safety, and welfare (e.g., wetlands that lend to reduction of erosion, siltation, flooding, ground and surface water pollution, recharge streams and aquifers, and provide habitat for fish and wildlife).

2.2 Wetland Classification and Designation.

- A. Approximate wetland locations shall be identified using National Wetlands Inventory maps, information furnished by the applicant (per a checklist provided by the County), and/or other information provided by qualified professionals or other agencies.
- B. **Designating Wetlands.** Wetlands are those areas, designated in accordance with the approved federal wetland delineation manual and applicable regional supplements that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions.
- C. **Wetland Ratings.** Wetlands shall be rated according to the Washington Department of Ecology wetland rating system, as set forth in the Washington State Wetland Rating System for Eastern Washington (Ecology Publication #14-06-030, or as revised and approved by Ecology) which contains the definitions and methods for determining whether the criteria below are met:
 1. **Category I Wetlands.** Wetlands which are: alkali wetlands, wetlands that have been identified through the Washington Natural Heritage Program (DNR) as wetlands with high conservation value, bogs, mature old-growth forested wetlands over one-fourth acre with slow-growing trees, forests with stands of aspen, and wetlands that perform many functions very well function at a very high level (scores 22-27 points). These are wetlands which meet at least one of the following criteria: 1) represent a unique or rare wetland type; or 2) are more sensitive to disturbance than most wetlands; or 3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; 4) provide a high level of functions; or 5) documented wetlands of local significance.
 2. **Category II Wetlands.** Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions (scores between 19 and 21 points). These wetlands occur more commonly than Category I wetlands, but still need a relatively high level of protection.
 3. **Category III wetlands.** Category III wetlands are 1) vernal pools that are isolated, and 2) wetlands with a moderate level of functions (scores between 16 and 18 points). Wetlands scoring between 16 and 18 points generally have been disturbed in some ways, and are often smaller, less

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diverse and/or more isolated from other natural resources in the landscape than Category II wetlands.

4. **Category IV Wetlands.** Category IV wetlands have the lowest levels of functions (scores fewer than 16 points) and are often heavily disturbed.

2.3 Wetland Performance Standards.

A. The following uses shall be regulated to achieve, at a minimum, no net loss of wetland functions and values, including lost time when the wetland does not perform the function:

1. The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind;
2. The dumping, discharging, or filling with any material, including discharges of stormwater and domestic, commercial, or industrial wastewater
3. The draining, flooding, or disturbing of the water level, duration of inundation, or water table;
4. The driving of pilings;
5. The placing of obstructions;
6. The construction, reconstruction, demolition, or expansion of any structure;
7. Significant vegetation removal, provided that these activities are not part of a forest practice governed under chapter 76.09 RCW and its rules;
8. Other uses or development that results in an ecological impact to the physical, chemical, or biological characteristics of wetlands; or
9. Activities reducing the functions and values of wetland buffers.

B. If a proposal is located within 250 feet of a wetland, the applicant shall provide a wetland boundary/delineation/survey and wetland rating, with analysis of impacts to existing ecological functions prepared by a qualified professional. Wetland boundaries shall be delineated using the currently approved federal manual and supplements. Impacts shall be mitigated pursuant to adherence to appropriate buffers. Impacts that will not be mitigated by buffers will be mitigated pursuant to mitigation sequencing.

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C. If it is determined that a proposed development is not within 250 feet of a

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wetland, then the proposed development will not be reviewed for impacts to wetlands under this Chapter.

- D. **Wetland buffers:** The width of the standard buffer shall be based on the wetland category and the intensity of the proposed land use adjacent to the buffer as indicated in the table below.

Wetland Category	Land Use with Low Intensity	Land Use with Moderate Intensity	Land Use with High Intensity
I	125 ft	190 ft	250 ft
II	100 ft	150 ft	200 ft
III	75 ft	110 ft	150 ft
IV	25 ft	40 ft	50 ft

1. High intensity use and developments include: commercial, urban, industrial, institutional, retail sales, residential (more than 1 unit/acre), conversion from non-agricultural lands to high intensity agriculture (dairies, animal feed lots, nurseries and green houses, and like uses), high intensity recreation (golf courses, ball fields, RV parks, high-use camping facilities, and like uses), cell towers, and hobby farms. Moderate intensity use and developments include: residential (1 unit/acre or less), moderate intensity open space (parks with biking, jogging, and like uses), conversion from non-agricultural lands to moderate intensity agriculture (orchard, hay fields, and like uses), paved trails, building of logging roads not exempted under this Master Program, and utility corridor or right-of-way shared by several utilities and including access/maintenance roads. Low intensity use and developments include: forestry (cutting or removal of trees only), low intensity open space (hiking, bird-watching, and like uses), unpaved trails, and utility corridor without a maintenance road and little or no vegetation management.
2. **Wetland buffer condition.** Wetland buffer areas shall be retained in a natural condition or may be improved to enhance buffer functions and values. Where buffer disturbance is allowed, re-vegetation with native vegetation shall be required. Alterations of the wetland buffer that are not associated with an allowed use or development shall be prohibited.
3. **Interrupted buffer.** When a wetland buffer contains an existing legally established public or private road, the Director may allow development on the landward side of the road provided that the development will not have a detrimental impact to the wetland. The applicant may be required to provide a wetland critical areas report to describe the potential impacts. In determining whether a critical areas report is necessary, the County shall consider the hydrologic, geologic, and/or biological habitat connection

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Commented [DN5]: Edits made per CAO Public Comment Response Matrix Round 2 (Oct 2022), Item 10.f

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potential and the extent and permanence of the buffer interruption.

4. **Buffers of restored wetlands.** The buffer for a wetland created, restored, or enhanced as compensation for approved wetland alterations shall be the same as the buffer required for the category of the created, restored, or enhanced wetland.
5. **Buffer averaging.** Averaging of required wetland buffer width shall be allowed if a qualified professional prepares a mitigation plan per Section 1.4.B. that demonstrates no net loss of existing wetland ecological functions will result. In no case shall the total area within the averaged buffer area be less than the area contained within the required buffer areas without averaging, and no portion of an averaged buffer area shall be reduced by more than 25 percent of the standard buffer width or be less than 25 feet wide, whichever is greater.
6. Vegetation in buffers shall not be removed, with the following exceptions:
 - i. Hazard trees and vegetation may be removed when necessary to:
 - (1) Control fire;
 - (2) Halt the spread of disease or damaging insects consistent with the State Forest Practice Act, Chapter 76.09 RCW;
 - (3) Avoid a hazard such as landslides; or
 - (4) Avoid a threat to existing structures or aboveground utility lines.
 - ii. Before hazard trees and vegetation may be removed by the landowner pursuant to Subsections (i) above:
 - (1) Unless there is an emergency, the landowner shall obtain prior written approval from the Director. This consent shall be processed promptly and may not be unreasonably withheld. If the County fails to respond to a hazard tree removal request within 10 business days, the landowner's request shall be conclusively allowed;
 - (2) The removed tree or vegetation should be left within the critical areas or buffer unless the Director, or a qualified professional, warrants its removal to avoid spreading disease or pests;
 - (3) Any removed tree or vegetation shall be replaced by the

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landowner with an appropriate native species in appropriate size. Replacement shall be performed consistent with accepted restoration standards for critical areas within 1 calendar year;

- (4) For this Section only, a “qualified professional” shall mean a certified arborist, certified forester or landscape architect.
7. Buffers shall be delineated on all permits. Any approved buffer modification, such as buffer averaging, must be recorded on title.
 8. **Allowed Buffer Uses.** The Director may allow the following alterations and development within a wetland buffer provided that they are conducted in a manner so as to minimize impacts to the buffer and adjacent wetland, including wetland functions and values:
 - i. Conservation or restoration activities aimed at protecting or enhancing the soil, water, vegetation, or wildlife.
 - ii. The following passive recreation facilities designed in accordance with an approved critical areas report:
 - (1) Walkways and trails; provided that those pathways which are generally parallel to the perimeter of the wetland shall be located in the outer twenty-five percent (25%) of the buffer area and constructed with a surface that is not impervious to water. Raised boardwalks utilizing non-treated pilings may be acceptable; and
 - (2) Wildlife viewing structures less than five hundred (500) square feet in size, including hunting blinds.
 - iii. Stormwater management facilities, limited to stormwater conveyance and dispersion facilities, outfalls and bioswales, may be allowed within the outer twenty-five percent (25%) of the buffer of wetlands in accordance with an approved critical areas report provided that:
 - (1) No other location is feasible;
 - (2) The facility is designed to meet or exceed the standards set forth in the current version of the Stormwater Manual for Eastern Washington; and
 - (3) The location of such facility will not degrade the functions or values of the wetland

2.4 Wetland Mitigation.

- A. Compensatory mitigation shall be allowed only after mitigation sequencing is applied per Section 1.4.
- B. A mitigation plan, prepared by a qualified professional, providing for restoration/enhancement, or replacement, may be accepted if the mitigation plan will protect and maintain the functions and values of the critical area. Mitigation of wetland losses and impacts shall be in the following descending order of preference:
 - 1. Complete restoration.
 - 2. In-kind replacement in the same functional area.
 - 3. In-kind replacement outside the area.
 - 4. Out-of-kind replacement inside the area.
 - 5. Out-of-kind replacement outside the area.

C. Wetland Mitigation Plan

- 1. The wetland mitigation plan shall be prepared in accordance with Section 1.4.B. Mitigation Plans and identify how the proposed mitigation will adequately mitigate for the loss of wetland area and function at the impact site.
 - 2. If mitigation is located off-site, the wetland mitigation plan shall assess whether an appropriate location has been identified to adequately replace lost wetland functions at the site of impact. The mitigation plan will evaluate the site to assess if a site has a high likelihood of success due to an adequate source of water, ability to control invasive species, appropriate adjacent land uses and development pressures, adequate buffers, connectivity to other habitats and other relevant factors.
- D. Alteration of wetlands shall require the creation, restoration or enhancement of wetlands to provide equivalent or greater area, functions and values. The below standard ratios shall apply to the creation of new wetlands or restoration of former wetlands. The first number specifies the area of wetlands requiring replacement and the second number specifies the area of wetlands altered. When impacts to wetlands are mitigated by enhancement of existing significantly degraded wetlands the ratio shall generally be higher than for creation or restoration because enhancement does not replace wetland area and only improves some wetland functions. Applicants proposing to enhance wetlands must identify how enhancement will increase the functions of the degraded wetland and how this

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increase will adequately mitigate for the loss of wetland area and function at the impact site. An enhancement proposal must also show whether existing wetland functions will be reduced by the enhancement actions.

Category I	6:1
Category II	3:1
Category III.....	2:1
Category IV.....	1.5:1

1. The standard replacement ratio may be decreased under the following circumstances:
 - i. Findings of special studies coordinated with agencies and/or other qualified professionals with expertise which demonstrates that no net loss of wetland function or value is attained under the decreased ratio.
 - ii. In all cases, a minimum acreage replacement ratio of 1:1 shall be required.
2. The standard replacement ratio may be increased under the following circumstances:
 - i. High degree of uncertainty as to the probable success of the proposed restoration or creation;
 - ii. Significant period of time between destruction and replication of wetland functions;
 - iii. Projected losses in functions and values; and/or
 - iv. Off-site compensation.

E. The applicant shall develop a plan that provides for land acquisition, construction, maintenance, and monitoring of replacement/compensatory wetlands. Mitigation shall be completed prior to wetland destruction or concurrent with development. Any restored, created, purchased, or enhanced wetland shall be maintained as a wetland in perpetuity. All wetland restoration, creation and/or enhancement projects required pursuant to this appendix either as a permit condition or as the result of an enforcement action must be approved by the Planning Department prior to commencement of any wetland restoration, creation or enhancement activity.

Chapter 3 - Fish and Wildlife Habitat Conservation Areas

3.1 Purpose.

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The purpose of this chapter is to provide standards for classification and designation of fish and wildlife habitat conservation areas; and provide guidance for protecting those fish and wildlife habitat conservation areas, including areas in which anadromous fish, threatened and endangered species, and species of local importance have a primary association.

3.2 Fish and Wildlife Habitat Conservation Area Classification and Designation.

A. Fish and Wildlife Habitat Conservation Areas Designation. For purposes of these regulations, fish and wildlife conservation areas are those areas that meet any of the following criteria:

1. Areas where state or federal designated endangered, threatened, and sensitive species have a primary association.
2. Habitats and species of local importance.
3. Naturally occurring ponds under twenty (20) acres and their submerged aquatic beds that provide fish or wildlife habitat.
4. Waters of the state, as classified in WAC 222-16-030.
5. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity.
6. State natural area preserves, natural resource conservation areas, and state wildlife areas.

B. Habitats and species of local importance.

1. In addition to the fish and wildlife habitat conservation areas identified in Subsection (1) of this Section, additional habitats and species of local importance may be designated by the Director based on declining populations, sensitivity to habitat manipulation or special value including but not limited to commercial, game or public appeal.
2. In order to nominate an area or a species to the category of habitats and species of local importance, an individual or organization must:
 - i. Demonstrate a need for special consideration based on:
 - (1) Declining population;
 - (2) Sensitivity to habitat manipulation; or
 - (3) Commercial or game value or other special value, such as

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public appeal; and

- ii. Propose relevant management strategies considered effective and within the scope of this appendix; and
 - iii. Provide species habitat location(s) on a map (scale 1:24,000). Submitted proposals will be reviewed by the Director and forwarded to the Departments of Fish and Wildlife, Natural Resources, and/or other local and State agencies or experts for comments and recommendations regarding accuracy of data and effectiveness of proposed management strategies.
3. Klickitat County will hold a public hearing for proposals found to be complete, accurate, potentially effective and within the scope of this appendix. Approved nominations will become designated “habitats/species of local importance” and will be subject to the provisions of this appendix.

C. Fish and Wildlife Habitat Conservation Areas Classification

Water type shall be determined using the criteria set forth in WAC 222-16-030 and as described below. Artificially created structures, ditches, canals, ponds, irrigation return ditches, and stormwater channels shall not be considered a stream for purposes of this chapter.

1. **Type F:** segments of natural waters other than shorelines of the state, which are within the bankfull widths of defined channels and periodically inundated area of their associated wetlands, or within lakes, ponds, or impoundments having a surface area of 0.5 acre or greater at seasonal low water and which in any case contain fish habitat.
2. **Type Np:** all segments of natural waters within the bankfull width of defined channels that are perennial non-fish habitat stream. Perennial stream waters do not go dry any time of a year of normal rainfall. However, for the purpose of water typing, Type Np Waters include the intermittent dry portions of the perennial channel below the uppermost point of perennial flow.
3. **Type Ns:** All segments of natural waters within the bankfull width of the defined channels that are not shorelines of the state, or Type F, or Np waters. These are seasonal, non-fish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not located downstream from any stream reach that is a Type Np, F or S Water. Ns Waters must be upstream from and physically connected by an above-ground channel system to shorelines of the state, or Type F, or Np Waters.

D. Mapping

Those lands which meet the established criteria for fish and wildlife habitat conservation areas are to be designated as such. Fish and wildlife habitat conservation areas identified through the permitting process shall provide guidance in the land use decision-making process. All sites which maintain fish and wildlife habitat conservation areas, which are not mapped, shall be subject to fish and wildlife habitat conservation area review.

The approximate location and extent of fish and wildlife habitat conservation areas are shown on publicly available maps or other BAS sources, such as the WDFW Priority Habitats and Species maps, the United States Fish and Wildlife Service, and the NOAA Fisheries critical habitat maps. These maps are to be used as a guide and do not provide definitive information about fish and wildlife habitat conservation area size or presence. Fish and wildlife habitat conservation areas may exist that do not appear on the maps. The County may consult with the Department of Fish and Wildlife when there is need to clarify definitions and mapping.

3.3 Fish and Wildlife Habitat Conservation Area Performance Standards.

A. Intent of Riparian Buffers. The intent of riparian buffers is to protect the following 5 basic riparian functions that influence in-stream and near-stream habitat quality:

1. Recruitment of Large Woody Debris (LWD) to the stream. LWD creates habitat structures necessary to maintain salmon/trout and other aquatic organisms' productive capacity and species diversity.
2. Shade. Shading by the forest canopy maintains cooler water temperatures and influences the availability of oxygen for salmon/trout and other aquatic organisms.
3. Bank integrity (root reinforcement). Bank integrity helps maintain habitat quality and water quality by reducing bank erosion and creating habitat structure and in-stream hiding cover for salmon/trout and other aquatic organisms.
4. Runoff filtration. Filtration of nutrients and sediments in runoff (surface and shallow subsurface flows) helps maintain water quality.
5. Wildlife habitat. Functional wildlife habitat for riparian-dependent species is based on sufficient amounts of riparian vegetation to provide protection for nesting and feeding.

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B. Riparian buffers

1. Standard riparian buffers (Measured horizontally from OHWM)

Water Type	Standard Buffer
Type F Waters	150 feet
Type Np Waters	75 feet
Type Ns Waters	50 feet

2. Waters listed as Type N by the Washington State Department of Natural Resources shall be presumed to be a Type Np Water unless an applicant completed the water type modification process.
3. **Interrupted buffer.** When a riparian buffer contains an existing legally established public or private road, the Director may allow development on the landward side of the road provided that the development will not have a detrimental impact to the stream. The applicant may be required to provide a critical areas report to describe the potential impacts. In determining whether a critical areas report is necessary, the County shall consider the hydrologic, geologic, and/or biological habitat connection potential and the extent and permanence of the buffer interruption.
4. **Buffer averaging.** Averaging of required buffer widths shall be allowed if a qualified professional prepares a mitigation plan per Section 1.4.B of this appendix that demonstrates buffer functions and values will not be reduced. In no case shall the total area within the averaged buffer area be less than the area contained within the required buffer area without averaging, and no portion of an averaged buffer shall be reduced by more than 25% of the standard buffer width or be less than 25 feet wide.
5. **Buffer reduction.** Buffer width reductions not exceeding 25%, and in no event less than 25 feet, may be approved if a qualified professional prepares a habitat management plan per Section 3.4 of this appendix. The management plan must protect habitat functions and values, ensure no net loss of habitat, be maintained for the life of the project, and be recorded against the property.
6. Riparian vegetation in buffers shall not be removed, with the following exceptions:
 - i. A view/access corridor to the OHWM may be cleared to a width not to exceed 10' if habitat values will not be impacted and/or migration will be unaffected. If the functions and values of critical areas are impaired, mitigation must be proposed as part of a habitat management plan, such as widening the riparian buffer at the same location, or widening or enhancing the buffer at another location.

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- ii. Hazard trees may be removed when necessary to:
 - (1) Control fire;
 - (2) Halt the spread of disease or damaging insects consistent with the State Forest Practice Act, Chapter 76.09 RCW;
 - (3) Avoid a hazard such as landslides; or
 - (4) Avoid a threat to existing structures or aboveground utility lines.
 - iii. Before hazard trees and vegetation may be removed by the landowner pursuant to Subsections (i) and (ii) of this Section:
 - (1) Unless there is an emergency, the landowner shall obtain prior written approval from the Director. This consent shall be processed promptly and may not be unreasonably withheld. If the County fails to respond to a hazard tree removal request within 10 business days, the landowner's request shall be conclusively allowed;
 - (2) The removed tree or vegetation should be left within the critical areas or buffer unless the Director, or a qualified professional, warrants its removal to avoid spreading disease or pests;
 - (3) Any removed tree or vegetation shall be replaced by the landowner with an appropriate native species in appropriate size. Replacement shall be performed consistent with accepted restoration standards for critical areas within 1 calendar year;
 - (4) For this Section only, a "qualified professional" shall mean a certified arborist, certified forester or landscape architect.
7. Buffers shall be delineated on all permits. Any approved buffer modification related to a proposed development, such as buffer averaging or buffer reduction, must be recorded on title.

C. Special provisions—Streams. The following provisions supplement those identified in this Chapter and this appendix.

- 1. Activities, uses, and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of

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anadromous fish habitat, including, but not limited to, the following:

- i. Activities shall be timed to occur only during the allowable work window as designated by the Washington Department of Fish and Wildlife;
 - ii. An alternative alignment or location for the activity is not feasible;
 - iii. The activity is designed so that it will minimize the degradation of the downstream functions or values of the fish habitat or other critical areas; and
 - iv. Any impact to the functions and values of the habitat conservation area are mitigated in accordance with an approved critical areas report and habitat management plan, if applicable.
2. Structures that prevent the migration of salmonids shall not be allowed in the portion of water bodies currently or historically used by anadromous fish. Fish bypass facilities shall be provided that allow the upstream migration of adult fish and shall prevent juveniles migrating downstream from being trapped or harmed.
3. Fills within streams, when authorized, shall minimize the adverse impacts to anadromous fish and their downstream habitat, shall mitigate any unavoidable impacts, and shall only be allowed for water-dependent uses.
4. **Type F Streams.** Activities and uses shall be prohibited in Type F streams and riparian buffers except for the allowable activities and uses listed below.
- i. **Stream Crossings.** Stream crossing shall be minimized, but when necessary they shall conform to the following standards as well as other applicable laws (see the Department of Fish and Wildlife, or Ecology):
 - (1) The stream crossing is the only reasonable alternative that has the least impact;
 - (2) It has been shown in a critical areas report that the proposed crossing will not decrease the stream and associated buffer functions and values;
 - (3) The stream crossing shall use bridges instead of culverts unless it can be demonstrated that a culvert would result in equal or less ecological impacts;

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- (4) All stream crossings using culverts shall use super span or oversized culverts with appropriate fish enhancement measures. Culverts shall not obstruct fish passage;
 - (5) Stream crossings shall be designed according to the Washington Department of Fish and Wildlife **Water Crossing Design Guidelines (2013)**, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, or as amended;
 - (6) All stream crossings shall be constructed during the summer low flow period between July 1st and August 15th or as specified by the Washington Department of Fish and Wildlife in the hydraulic project approval;
 - (7) Stream crossings shall not occur through salmonid spawning areas unless no other feasible crossing site exists;
 - (8) Bridge piers or abutments shall not be placed in either the floodway or between the ordinary high water marks unless no other feasible alternative placement exists;
 - (9) Stream crossings shall not diminish the flood carrying capacity of the stream;
 - (10) Stream crossings shall minimize interruption of downstream movement of wood and gravel;
 - (11) Stream crossings shall provide for maintenance of culverts and bridges; and
 - (12) Stream crossings shall be minimized by serving multiple properties whenever possible.
- ii. **Utilities.** Utility corridors shall not be aligned parallel with any stream channel unless the corridor is outside the buffer, and crossings shall be minimized. Installation shall be accomplished by boring beneath the scour depth and hyporheic zone of the water body where feasible. Crossings shall be contained within the existing footprint of an existing road or utility crossing where possible. Otherwise, crossings shall be at an angle greater than sixty degrees to the centerline of the channel. The criteria for stream crossing shall also apply.
- iii. **Stormwater facilities.** Stormwater facilities provided that they are located in the outer twenty-five percent of the buffer and are

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located in the buffer only when no practicable alternative exists outside buffer. Stormwater facilities should be planted with native plantings where feasible to provide habitat, and/or less intrusive facilities should be used. Detention/retention ponds should not be located in the buffer.

- iv. **Floodway dependent structures.** Floodway dependent structures or installations may be permitted within streams if allowed or approved by other ordinances or other agencies with jurisdiction.
 - v. **Stream bank stabilization.** Stream bank stabilization shall only be allowed when it is shown, through a stream bank stability assessment conducted by a qualified fluvial geomorphologist or hydraulic engineer, that such stabilization is required for public safety reasons, that no other less intrusive actions are possible, and that the stabilization will not degrade instream or downstream channel stability. Stream bank stabilization shall utilize bioengineering or soft armoring techniques unless otherwise demonstrated. Stream bank stabilization shall conform to the Integrated Streambank Protection Guidelines developed by the Washington State Department of Fish and Wildlife, 2002 or as revised. Stabilization measures must demonstrate the following:
 - (1) Natural shoreline processes will be maintained. The project will not result in increased erosion or alterations to, or loss of, shoreline substrate within one-fourth mile of the project area;
 - (2) The stabilization measures will not degrade fish or wildlife habitat conservation areas or associated wetlands;
 - (3) Adequate mitigation measures ensure that there is no net loss of the functions or values of riparian habitat;
 - vi. Maintenance of lawfully established existing bank stabilization is allowed provided it does not increase the height or linear amount of bank and does not expand waterward or into aquatic habitat landward.
 - vii. Clearing or development in riparian habitat areas which is at least one hundred feet from the waterline and separated by a continuous public or private roadway serving three or more lots.
5. **Type N Streams.** Activities and uses that result in unavoidable and necessary impacts may be permitted in Type Np and Ns streams and buffers in accordance with an approved critical areas report and habitat

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management plan, and only if the proposed activity is the only reasonable alternative that will accomplish the applicant's objectives.

3.4 Fish and Wildlife Habitat Conservation Area Mitigation.

- A. Mitigation projects involving in-water work including, but not limited to, stream relocation and installation of large woody debris structures shall be professionally engineered and designed to ensure there are no adverse hydraulic effects on upstream or downstream properties, and shall comply with all applicable permits such as a hydraulic project approval (HPA) from the WA Department of Fish and Wildlife.
- B. Mitigation shall be allowed only after mitigation sequencing is applied per Section 1.4 of this appendix.
- C. A mitigation plan, prepared by a qualified professional, may be accepted if the mitigation plan will protect and maintain the functions and values of the critical area.

D. Habitat Management Plans

- 1. **When required.** If a proposed development is located within a known or suspected fish and wildlife habitat conservation area and the required buffer width cannot be met, the Director shall require the applicant to submit a habitat management plan prepared by a qualified professional, which includes the information listed in this chapter. The requirement to provide a habitat management plan for fish and wildlife habitat conservation areas may be waived on a case by case basis if the Director determines that there are no potential direct and/or indirect impacts on designated species or habitats that would result from the proposed development.
- 2. **Contents.** When required by this chapter, habitat management plans shall include the general critical areas report requirements, as described in Section 1.12, in addition to the following:
 - i. Identification of any state or federal endangered, threatened, sensitive, or candidate species that have a primary association with habitat on the project area;
 - ii. Map showing the location of the ordinary high water mark and/or locations of fish and wildlife habitat conservation area(s) and their buffers;
 - iii. The vegetative, faunal, topographic, and hydrologic characteristics of the fish and wildlife habitat conservation area;

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- iv. A discussion of any federal, state, or local special management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitat located on or adjacent to the project area;
- v. A discussion of the direct and/or indirect potential impacts on the fish and wildlife habitat conservation area by the project. Such discussion shall include a discussion of the ongoing management practices that will protect habitat after the project site has been developed;
- vi. The general mitigation plan requirements of this Master Program as well as the fish and wildlife habitat conservation area mitigation requirements of this appendix, if the alteration or development will result in unavoidable impacts to fish and wildlife habitat conservation areas; and
- vii. Methods and measures to avoid, minimize and/or compensate for adverse impacts associated with the proposed development, including, but not limited to:
 - (1) Prohibition or limitation of use, alteration, and development within the fish and wildlife habitat conservation area;
 - (2) Retention of vegetation and/or re-vegetation of areas/habitats critically important to species;
 - (3) Special construction techniques;
 - (4) Implementation of erosion and sediment control measures;
 - (5) Habitat restoration or enhancement (e.g., fish passage barrier removal);
 - (6) Seasonal restrictions on construction activities on the subject property;
 - (7) Clustering of alterations or development on the subject property; and
 - (8) Any other requirements and/or recommendations from federal, state, or local special management recommendations, including the Washington State Department of Fish and Wildlife's habitat management

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guidelines.

3. Mitigation requirements.

- i. **General Mitigation Requirements.** Mitigation for alteration or impacts to fish and wildlife habitat conservation areas shall achieve equivalent or greater biological functions and shall include mitigation for adverse impacts upstream and downstream of the development project site. Mitigation shall address each functional attribute affected by the alteration to achieve functional equivalency or improvement on a per function basis. Mitigation elements may include but are not limited to: restoration of previously degraded areas and key habitat features; restoration of riparian vegetation communities to provide shade and large woody debris; addition of large woody debris; and installation of upland habitat features.
- ii. **Type of mitigation required.** In determining the extent and type of mitigation required, the Director may consider all the following:
 - (1) The ecological processes that affect and influence habitat structure and function within the watershed or sub-basin;
 - (2) The individual and cumulative effects of the action upon the functions of the critical area and associated watershed;
 - (3) Observed or predicted trends regarding the gains or losses of specific habitats or species in the watershed, in light of aggregated natural and human processes;
 - (4) The likely success of the proposed mitigation measures; and
 - (5) Effects of the mitigation actions on neighboring properties.
- iii. **Location.** Compensatory mitigation shall be provided on-site or off-site in the location that will provide the greatest ecological benefit to the species and/or habitats affected and have the greatest likelihood of success. Mitigation shall occur as close to the impact site as possible, within the same sub-basin, and in a similar habitat type as the permitted alteration unless the applicant demonstrates to the satisfaction of the Director through a watershed- or landscape-based analysis that mitigation within an alternative sub-basin of the same watershed would have greater ecological benefit.

Chapter 4 - Geologically Hazardous Areas

4.1 Purpose.

Geologically hazardous areas may pose a threat to the health and safety of citizens when incompatible development is sited in areas of significant hazard. Such incompatible development may not only place itself at risk but may also increase the hazard to surrounding development and uses. The purpose of this chapter is to provide standards for classification and designation of geologically hazardous areas; and provide guidance for reducing or mitigating hazards to public health and safety.

4.2 Geologically Hazardous Areas Classification and designation.

All geologically hazardous areas shall be divided into one of the following risk categories; erosion, landslide, seismic, volcanic, or mine hazard areas.

A. Erosion Hazard Areas - areas of Klickitat County which:

1. Contain soils or soils complexes identified by the U.S. Department of Agriculture's Natural Resource Conservation Service or the Soil Survey for Klickitat County as having "moderate to severe," "severe" or "very severe" erosion hazard potential; or
2. Are impacted by shore land and/or stream bank erosion; or
3. Have slopes in excess of fifteen percent.
4. Channel Migration Zones
 - i. The Director may assemble all available channel migration and erosion hazard maps and studies from Klickitat County and other sources in order to determine the location and severity of known channel migration and erosion hazard zones and shall maintain maps showing the boundaries of all known channel migration and erosion hazard zones once they are developed. In lieu of available channel migration zone maps, the Director may use the 100-year floodplain as a proxy for the channel migration zone.
 - ii. An applicant for a development permit may submit a report by a qualified professional engineer in support of a determination of the boundaries or classification of channel migration and/or erosion hazard areas on a specific property if there is a discrepancy between the approved channel migration zone or erosion hazard map and site-specific conditions or data, or for unmapped potential channel migration zones or erosion hazard areas.

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- iii. No new development may be permitted in the severe channel migration zone unless otherwise allowed under this chapter.
- iv. The following activities are allowed within the severe and moderate channel migration zone:
 - (1) Trails and boardwalks;
 - (2) Forest practices;
 - (3) Ongoing or existing agricultural activities;
 - (4) Bridges, utilities and transportation structures when no other feasible alternative exists;
 - (5) Development with a primary purpose of protecting or restoring ecological functions.
- v. Existing structures may be maintained and improved on existing legal lots in the moderate channel migration zone and/or erosion hazard area; provided, the footprint may not be expanded toward the source of channel migration or erosion hazard.
- vi. New structures may be permitted in the moderate channel migration zone on existing legal lots; provided, that a feasible alternative location outside of the channel migration hazard is not available on site, and the structure and supporting infrastructure, including septic system, are located at the farthest distance from any source of channel migration or erosion hazard.
- vii. Subdivision of land by any means, including short subdivision or binding site improvement plan, is prohibited within the moderate channel migration zone unless an unrestricted developable area is available on the subdivided lots outside of the moderate channel migration zone.
- viii. New structural flood hazard reduction measures may be allowed in a channel migration zone to protect existing development only where demonstrated through an engineering analysis to be necessary, and when nonstructural methods are infeasible and such measures are located landward of associated wetlands and buffer areas except where no alternative exists as documented in a geotechnical analysis.

B. Landslide Hazard Areas – areas susceptible to landslides because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology,

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or other physical factors. Potential landslide hazard areas exhibit one or more of the following characteristics:

1. Sensitive Sloped Areas. Slopes exceeding thirty-five percent with a vertical relief of ten or more feet except areas composed of competent rock and properly engineered slopes designed and approved by a geotechnical engineer licensed in the state of Washington and experienced with the site;
2. Areas mapped by the Washington State Department of Natural Resources (slope stability mapping) as unstable ("U"), unstable old slides ("UOS"), or unstable recent slides ("URS");
3. Areas designated by the U.S. Department of Agriculture's Natural Resource Conservation Service as having "severe" limitation for building site development;
4. Areas that have shown evidence of historic failure or instability, including but not limited to back-rotated benches on slopes; areas with structures that exhibit structural damage such as settling and racking of building foundations; and areas that have toppling, leaning, or bowed trees caused by ground surface movement;
5. Slopes greater than fifteen percent that have a relatively permeable geologic unit overlying a relatively impermeable unit and having springs or groundwater seepage;
6. Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action;
7. Areas located in a canyon or active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding;
8. Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington State Department of Natural Resources;
9. Areas that are at risk of mass wasting due to seismic forces; and
10. Slopes having gradients steeper than eighty percent subject to rock fall during seismic shaking.

C. **Seismic Hazard Areas** – Seismic hazard areas shall be as identified in Washington State Department of Natural Resources seismic hazard and liquefaction susceptibility maps for Eastern Washington and other geologic resources. Klickitat County is located within a C seismic zone, with no known

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active faults. All new development shall conform to the applicable provisions of the International Codes with Washington State Amendments which contain structural standards and safeguards to reduce risks from seismic activity.

- D. **Volcanic** – Volcanic risk is low, although ashfall could be expected during a volcanic event.
- E. **Mine** - The likelihood of the presence of underground mines within the County is believed to be remote.
- F. Those lands which meet the established criteria for geologically hazardous areas are to be designated as such. Geologically hazardous areas identified through the permitting process shall be mapped and shall provide guidance in the land use decision-making process. All sites which maintain geologically hazardous areas, including those geologically hazardous areas which are not mapped, shall be subject to geologically hazardous areas review by a qualified professional so stated in this chapter.

4.3 Geologically Hazardous Areas Performance Standards.

- A. Upon receipt of a complete development application, U.S.G.S. topographic maps and NRCS soil information shall be reviewed to determine if the proposed development is in a geologically hazardous area. If the proposed site is in a geologically hazardous area, the applicant shall be responsible for securing the services of a professional engineer/geologist who shall provide information as follows:
 - 1. Maximum and average on-site slopes;
 - 2. Identification of groundwater seepage areas;
 - 3. Any known on-site landslide activity;
 - 4. Identification of any stream incision and/or erosion points; and
 - 5. The extent of any applicable alluvial fan.
- B. Proposed developments shall be designed in accordance with the requirements of the Uniform Building Code as written now or hereafter amended when a geologically hazardous area is found on or near the proposed development.
- C. Development sites for new structures identified with intermittent or perennial stream-side incision or erosion points shall have all structures located a minimum of 100 feet away from such points.
- D. Any disturbance to erosion hazard areas will require revegetation and stabilization

with native plant materials.

- E. New development or the creation of new lots that would cause foreseeable risk from geological conditions to people or improvements during the life of the development is prohibited.

Chapter 5 - Critical Aquifer Recharge Areas

5.1 Purpose.

The purpose of this chapter is to provide standards for classification and designation of areas with a critical recharging effect on aquifers used for potable water and whose protection is necessary to public health and safety.

5.2 Critical Aquifer Recharge Areas Classification and designation.

- A. Critical aquifer recharge areas function to protect human health from contaminated drinking water (anti-degradation of ground water). CARAs are designated on the basis of:
 - 1. Land use activities which pose a threat to aquifer quality; or
 - 2. Land use activities which pose a threat to community water systems; or
 - 3. Aquifers with characteristics conducive to contamination.
- B. Designated areas include Group A wellhead protection areas, susceptible ground water management areas, moderately or highly vulnerable areas, moderately or highly susceptible areas. Susceptibility can be estimated using soil permeability, geologic matrix (underlying soils), infiltration rate, and depth to ground water.
- C. Those lands which meet the established criteria for aquifer recharge areas are to be designated as such. Aquifer recharge areas identified through the permitting process shall be mapped and shall provide guidance in the land use decision-making process. All sites which maintain aquifer recharge areas, including those aquifer recharge areas which are not mapped, shall be subject to aquifer recharge areas review so stated in this chapter.

5.3 Critical Aquifer Recharge Areas Applicability.

- A. This chapter regulates the following uses when located in a critical aquifer recharge area:
 - 1. Storage tanks;
 - 2. Commercial vehicle repair, servicing, and salvaging facilities;

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3. Reclaimed wastewater;
4. New landfills, including hazardous or dangerous waste, municipal solid waste, special waste, wood waste of more than two thousand (2,000) cubic yards, and inert and demolition waste landfills;
5. Injection wells used for disposal of waste products including, but not limited to, stormwater discharge, hazardous or radioactive waste, or industrial waste;
6. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces (both natural and manmade);
7. Commercial coal, ore mining operations, and natural gas exploration and extraction;
8. Facilities that store, process, or dispose of chemicals containing perchloroethylene (PCE) or methyl tertiary butyl ether (MTBE) or other chemicals with the potential to contaminate groundwater;
9. Dairy farms and feedlots;
10. Man-made stormwater detention or infiltration ponds, manure lagoons, and irrigation ponds; and
11. Any other alteration or development that the Director determines – based on best available science– is likely to have a significant adverse impact on ground water.

5.4 Critical Aquifer Recharge Areas Protection Measures.

A. **Storage tanks.** Aboveground and underground storage tanks or vaults used for the storage of hazardous substances, animal wastes, sewage sludge, fertilizers, other chemical or biological hazards, dangerous wastes as defined in WAC Chapter 173-303, or any other substances, solids, or liquids in quantities identified by the Public Health Department as a risk to groundwater quality, shall be designed and constructed to:

1. Prevent the release of such substances to the ground, ground waters, or surface waters;
2. Include an impervious containment area with a volume greater than the volume of the storage tank or vault to avoid an overflow of the containment area;
3. Provide for release detection;

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4. Provide written spill response and spill notification procedures to the local fire district;
5. Use material in the construction or lining of the storage containment area which is compatible with the substance to be stored to protect against corrosion or leakage, or otherwise designed in a manner to prevent the release or threatened release of any stored substance; and
6. Comply with WAC 173-303 and 173-360A as well as International Building Code requirements.

- B. Commercial vehicle repair, servicing, and salvaging facilities.** Vehicle repair and servicing activities shall be conducted over impermeable pads and within a covered structure capable of withstanding normally expected weather conditions. Chemicals used in the process of vehicle repair, servicing, and salvaging must be stored in a manner that protects them from weather and provides containment should leaks occur. Dry wells shall not be allowed on sites used for vehicle repair, servicing, and salvaging. Dry wells existing on the site prior to facility establishment must be abandoned using techniques approved by the Washington State Department of Ecology prior to commencement of the proposed development.
- C. Reclaimed wastewater.** Use of reclaimed wastewater must be in accordance with adopted water or sewer comprehensive plans that have been approved by Ecology.
- D. Other regulated uses.** Protection standards for other uses regulated under Subsection A shall be based on analysis and recommendations contained in the hydrogeologic reports required for specific projects.

5.5 Reporting

- A. When required.** Except for storage tanks, all uses listed in Section 6.3.A require County review and approval of a special hydrogeological assessment prepared by a qualified professional.
- B. Contents.** The hydrogeological assessment shall include the general critical areas report requirements of Section 1.12 in addition to the following:
1. Geologic setting and soils information for the site and surrounding area;
 2. Water quality data, including pH, temperature, dissolved oxygen, conductivity, nitrates, and bacteria;
 3. Location and depth of perched water tables;

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4. Recharge potential of site (permeability/transmissivity);
5. Hydrologic budget;
6. Local groundwater flow, direction, and gradient;
7. Location, depth, and other water quality data on the three (3) shallowest wells or springs located within one thousand (1,000) feet of the site;
8. Potential impacts to wellhead protection areas located within the site;
9. Surface water locations within one thousand (1,000) feet of the site;
10. Discussion of the effects of the proposed development on groundwater quality and quantity;
11. Recommendations on appropriate mitigation, if any, to assure that there shall be no measurable exceedance of minimum state groundwater quality standards or measurable reduction in available quantity of groundwater;
12. Emergency management plan; and
13. Containment release detection.

Chapter 6 - Frequently Flooded Areas

6.1 Purpose.

To provide standards for classification and designation and provide guidance for reducing or mitigating hazards to public health and safety.

6.2 Frequently Flooded Areas Classification and Designation.

Frequently flooded areas are defined as a critical area under RCW 36.70A.030. Criteria for identification and classification of frequently flooded areas and for protection standards for frequently flooded areas are included under the Klickitat County Flood Damage Prevention Ordinance.