

**PROPOSED
KITITAS COUNTY CRITICAL AREAS REGULATIONS
[CAC WORKING DRAFT]**

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Chapter 17A.01 GENERAL PROVISIONS

[Note to Reader: The general provisions text below – provided in outline form with some content provided in greater detail – is applicable to all critical areas. The specific language of this Chapter will be discussed at the October CAC meeting. The intent of providing this information now is to assist in your review of the specific critical area chapters and regulations that follow and provide the context (e.g. applicability, exemptions) under which the regulations in the following Chapters will be implemented. Feedback on these provisions is welcome at any time, though a detailed discussion of this Chapter is scheduled for October.]

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17A.01.XXX Purpose and Intent

1. Protect the functions and values of ecologically sensitive areas/provide for reasonable use of private property.
2. Regulate development in a manner that:
 - a. Protects people and property;
 - b. Maintains healthy, functioning ecosystems;
 - c. Directs activities to least ecologically sensitive sites;
 - d. Mitigates unavoidable impacts to critical areas; and
 - e. Allows flexibility.

17A.01.XXX Authority

Director has the authority to interpret and enforce this Title.

17A.01.XXX Applicability

1. Unless specifically exempted, regulations apply to all new or modified uses, activities, and developments within or adjacent to critical areas
2. No critical area or buffer alterations are allowed unless consistent with this title.
3. Does not regulate critical areas within SMP jurisdiction.
4. Applies to lands within unincorporated Kittitas County

5. Agricultural activities conducted on agricultural lands within the Upper Yakima and Alkali-Squilchuck watersheds are regulated by KCC Title 17X, and not this title.

17A.01.XXX Exemptions

The following activities do not require critical areas review but shall avoid and minimize impacts to critical areas:

1. Emergency activities, provided:
 - a. The person undertaking the action shall notify the Director within one day following commencement of the emergency action.
 - b. The Director shall determine if the action was allowable under this subsection and commence enforcement if not.
 - c. Within one year of the date of the emergency, the person undertaking the action shall fully mitigate any resulting impacts to the critical area and buffers in accordance with an approved critical area report and mitigation plan.
2. Normal operation, maintenance, or repair of existing structures, utilities, roads, levees, drainage systems, or similar improvements, including vegetation management, provided the action does not alter or increase the impact to or encroach upon the critical area or buffer.
3. Passive outdoor activities such as recreation, education, and scientific research that do not degrade the critical area.
4. Forest practices in accordance with Chapter 76.09 RCW and WAC Title 222, other than forest practice conversions.
5. Structural modification, addition or replacement of existing legal structures without altering or increasing the impact to the critical area or buffer.
6. Construction, replacement, or modification of streets, utilities, lines, mains, equipment, or appurtenances (excluding electrical substations) within improved right-of-ways and street easements. Such actions that alter a wetland or watercourse (e.g. culverts or bridges), result in the transport of sediment, or increased stormwater shall:
 - a. Increase critical area buffer widths equal to the width of the right-of-way improvement, including disturbed areas; and
 - b. Retain and replant native vegetation along the right-of-way improvement.
7. Minor utility projects (e.g. placement of a utility pole, street sign, or vault) using best practices;
8. Removal with hand labor and light equipment of invasive or noxious plants.
9. Thinning or removal of trees which a qualified arborist, landscape architect, or forester has documented as posing a threat to public safety and which do not provide critical habitat such as eagle perches. *[Optional: specify requirements for replacement trees.]*
10. Measures to control fire or halt the spread of disease or damaging insects consistent with the State Forest Practices Act, provided the removed vegetation is replaced with the same or similar native species within one year.
11. Application of herbicides, pesticides, or fertilizers in conformance with the regulations of the Department of Agriculture and the U.S. Environmental Protection Agency.
12. Minor clearing or digging necessary for surveys, soil logs, percolation tests, and similar activities, provided critical area impacts are minimized and disturbed areas are immediately restored.
13. Navigational aids and boundary markers;
14. Proposed developments that have undergone critical area review at a previous stage of the permit process, provided the earlier permit has not expired.
15. Harvesting of wild crops without injuring their natural reproduction or altering the critical area.
16. Conservation measures that do not adversely impact ecosystems;
17. Required environmental remediation;

18. Existing and ongoing agricultural activities. *[Optional qualifier: "where the land has not lain idle so long that modifications to the hydrological regime are necessary to resume operations." Language from Bonney Lake.]*

[At the October CAC meeting, we plan to discuss whether it is appropriate for the County to require a certificate of exemption for exempt activities (similar to that required by the Shoreline Master Program) or if that is unnecessary.]

17A.01.XXX Exceptions

The following activities may request an exception to the regulations in this Chapter:

1. Public Agencies and Utility.
2. Reasonable Use. If the application of this Title would deny all reasonable economic use of the subject property, the property owner may apply for an exception. The Director may grant a reasonable use exception if:
 - a. The application of this Title would deny all reasonable economic use of the property;
 - b. No other reasonable economic use of the property has less impact on the critical area;
 - c. Proposed impact is the minimum necessary to allow reasonable economic use;
 - d. Inability to derive reasonable use of the property is not from applicant action;
 - e. No unreasonable threat to the public health, safety, or welfare;
 - f. No net loss of critical area functions and values; and
 - g. Consistent with other applicable regulations and standards. *[Criteria based on Commerce's sample code]*

17A.01. XXX Non-Conforming Structures and Uses

1. Existing lawfully established structures/uses are allowed to continue.
2. Standards for alteration/expansion of non-conforming structures and uses

[At the October CAC meeting, we plan to discuss provisions for non-conforming uses and structures.]

17A.01. XXX Critical Areas Reports

1. **When Required.** When required in accordance with Section 17A.XX.XX, the applicant shall submit a critical areas report.
2. **Preparation by Qualified Professional.** The critical areas report shall be prepared by a qualified professional as defined in Chapter 17A.XX.
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 proposal and all probable impacts to critical areas in accordance with the provisions of this Title. The report shall reference the source(s) of science used.
4. **Minimum Report Contents.** At a minimum, the report shall contain the following:
 - a. The name and contact information of the applicant and a description of the proposal;
 - b. The site plan for the development proposal, including a map drawn to scale depicting critical areas, buffers, the development proposal, and any areas to be cleared or altered;
 - c. The names and qualifications of the persons preparing the report;
 - d. Documentation of any fieldwork performed on the site;
 - e. Identification and characterization of all critical areas and buffers on and adjacent to the proposed development;
 - f. A statement specifying the accuracy of the report, and all assumptions made and relied upon;
 - g. A discussion of the performance standards applicable to the critical area and proposed activity;

- h. A mitigation plan in accordance with Section 17A.XX.XX if mitigation is required; and
- i. Any additional report information required for the critical area as specified in Sections 17A.XX.XX through 17A.XX.XX.

17A.01.XXX General Protective Measures

[Many CAOs include a land division subsection that ensures new lots contain buildable area outside critical areas. The County thinks this requirement would fit best in KCC Title 16, Subdivisions. Not all critical areas will apply (e.g. seismic hazard/CARA). CAC should discuss if standard should be duplicated in this section or contained only in KCC Title 16.]

1. Native Growth Protection Areas.

- a. Native growth protection areas shall be used in development proposals for land division to protect those contiguous critical areas and buffers listed below that total less than five thousand (5,000) square feet:
 - i. All landslide hazard areas and buffers;
 - ii. All wetlands and buffers;
 - iii. All habitat conservation areas; and
 - iv. All other lands to be protected from alterations as conditioned by project approval.
- b. Native growth protection areas shall be recorded on all documents of title of record for all affected lots.
- c. Native growth protect areas shall be designated on the face of the plat or recorded drawing in a format approved by the County attorney. The designation shall include the following restrictions:
 - i. An assurance that native vegetation will be preserved for the purpose of preventing harm to property and the environment, including, but not limited to, controlling surface water and erosion, maintaining slope stability, buffering, and protecting plants, fish, and animal habitat; and
 - ii. The right of the County to enforce the terms of the restriction. *[Source: Commerce's sample code. Native growth protection area requirements are included in most, if not all, recent CAOs]*

2. Critical Area Tracts.

- a. Critical area tracts shall be used in development proposals for land division to delineate and protect those contiguous critical areas and buffers listed below that total five thousand (5,000) or more square feet:
 - i. All landslide hazard areas and buffers;
 - ii. All wetlands and buffers;
 - iii. All habitat conservation areas; and
 - iv. All other lands to be protected from alterations as conditioned by project approval.
- b. Critical area tracts shall be recorded on all documents of title of record for all affected lots.
- c. Critical area tracts shall be designated on the face of the plat or recorded drawing in a format approved by the County attorney. The designation shall include an assurance that native vegetation will be preserved for the purpose of preventing harm to property and the environment, including, but not limited to, controlling surface water and erosion, maintaining slope stability, buffering, and protecting plants, fish, and animal habitat. The designation shall also include the right of the County to enforce the terms of the restriction.
- d. The County may require that any required critical area tract be dedicated to the County, held in an undivided interest by each owner of a building lot within the development with the ownership interest passing with the ownership of the lot, or

held by an incorporated homeowner's association or other legal entity (such as a land trust, which ensures the ownership, maintenance, and protection of the tract).
[Source: Commerce's sample code. This regulation is similar to above, but lists specific criteria for land divisions, or when a site has a large coverage of critical area(s)]

3. **Temporary or Permanent Field Identification.** Prior to use or development within or adjacent to a critical area, the County may require temporary or permanent field markers delineating the critical area boundary and associated buffer. The type of field markers to be used will be agreed to by the project proponent and the Director depending on site conditions and inspection requirements. Field markers shall be spaced at a minimum of every fifty (50) feet, unless alternative placement or spacing is authorized by the Director. The location of field stakes must be shown on all site plans and final plats associated with the development proposal. Field markers shall remain in place until any required final inspections are completed and approved. Field markers may be waived by the Director if an alternative to field marking achieves the same objective, or if the development and construction activity(s) is located at a sufficient distance so that impacts to the critical area are unlikely to occur. The Director may require permanent fencing and/or signage if necessary to protect a critical area and its buffer from adjacent land uses. *[New. The purpose is to protect critical areas during project construction, and to allow the County to conduct critical area inspections]*
4. **Building Setbacks.** Unless otherwise provided, buildings and other structures shall be set back a distance of fifteen (15) feet from the edges of all critical area buffers or from the edges of all critical areas, if no buffers are required. The following is allowed in the building setback area:
 - a. Landscaping;
 - b. Uncovered decks;
 - c. Building overhangs, if such overhangs do not extend more than eighteen (18) inches into the setback area; and
 - d. Impervious ground surfaces, such as driveways and patios. *[Source: Commerce sample code. This setback area is generally considered large enough to allow room for general maintenance of a structure without impacting buffer. A 15' setback is common in most, if not all, CAOs]*
5. **Notice on Title.** The owner of any property containing a critical area or buffer for which a development permit – other than a permit for normal repair and maintenance of an existing structure – is about to be issued shall record a notice with the Kittitas County Auditor real estate records, and provide a copy of the filed notice to Kittitas County Community Development Services at the time the permit is issued. The purpose of the notice is to inform future property owners of the existence of a designated critical area on the property and explain the possible limitations (if any) on development.
[Source: Commerce sample code. This provision is standard in most, if not all, CAOs. The intent is to inform future property owners of development limitations that may be present. Based on feedback from CAC, language clarified to ensure notice doesn't alarm future purchasers about critical areas that may not impact development potential of property.]

17A.01.XXX Critical Areas Mitigation

1. **Mitigation Sequence.** All development proposals shall demonstrate that all reasonable efforts have been made to avoid and minimize impacts to critical areas. When an alteration to a critical area is proposed, such alteration shall be avoided, minimized, or compensated for in the following order of preference (referred to as the mitigation sequence):
 - a. Avoiding the impact altogether by not taking a certain action or parts of an action;

- b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
 - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
 - e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
 - f. Monitoring the impact and taking appropriate corrective measures. *[Sources: Commerce's sample code / BAS report pages 3-20, 5-13, and 6-13. A mitigation sequencing requirement is included in all recent CAOs, and is also a requirement under many state and federal laws, including the Clean Water Act]*
2. **Mitigation Plans.** When mitigation is required, the applicant shall submit a mitigation plan. The mitigation plan shall include all of the following:
- a. **Mitigation Sequencing.** A description of reasonable efforts made to apply mitigation sequencing pursuant to Section 17A.XX.XX to avoid, minimize, and mitigate impacts to critical areas;
 - b. **Mitigation Details.** The mitigation plan shall include;
 - i. A description of the anticipated impacts to the critical area, 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 measurable specific measurable criteria and performance standards for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained;
 - iv. A review of the best available science supporting the proposed mitigation; and
 - v. An analysis of the likelihood of success of the mitigation project.
 - c. **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.
 - d. **Monitoring Details.** The mitigation plan shall include:
 - i. A program for monitoring construction and assessing the outcome of the mitigation project, including the schedule for site monitoring (for example, monitoring shall occur in year 1, 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 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.
 - ii. A contingency plan with courses of action and corrective measures to be taken if monitoring or evaluation indicates project performance standards are not 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 Section 17A.XX.
- iv. The mitigation plan shall address any additional mitigation requirements relevant to the specific critical area as specified in the following chapters.
[Source: Commerce's sample code. General reporting requirements such as these are included in most, if not all, CAOs]

3. Financial Guarantees.

- a. When mitigation is required pursuant to a development proposal is not completed prior to the County's final permit approval, such as final plat approval or final building inspection, 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.
 - b. 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.
 - c. The financial guarantee may be in the form of a surety bond, performance bond, assignment of savings account, an irrevocable letter of credit guaranteed by an acceptable financial institution, or other form acceptable to the Director, with terms and conditions acceptable to the Kittitas County attorney.
 - d. 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 ensure that the required mitigation has been fully implemented and demonstrated to function, and may be held for longer periods when necessary.
 - e. Public development proposals shall be relieved from having to comply with the bonding requirements of this Section if public funds have previously been committed for mitigation, maintenance, monitoring, or restoration.
 - f. 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 Kittitas County code or any other law.
 - g. Any funds recovered pursuant to this Section shall be used to complete the required mitigation. Such funds shall not be deposited in the County General Fund, but rather provided with a separate account. The County will use such funds to arrange for completion of the project or mitigation, and follow-up corrective actions.
 - h. 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. *[Sources: Commerce's sample code. Mitigation financial guarantee provisions are included in most, if not all, CAOs]*
- 4. Mitigation Banking and In-Lieu Fee (ILF) Mitigation.** The County may approve mitigation banking and/or ILF mitigation as a form of compensatory mitigation for wetland and habitat conservation area impacts when the provisions of this Title require mitigation and when the use of a mitigation bank/ILF program will provide equivalent or greater replacement of critical area functions and values when compared to conventional permittee-responsible

mitigation. Banks and ILF program shall only be used when they provide significant ecological benefits including long-term conservation of critical areas, important species, habitats and/or habitat linkages, and when they are consistent with the County comprehensive plan and create a viable alternative to the piecemeal mitigation for individual project impacts to achieve ecosystem-based conservation goals. Banks and ILF programs shall be established and certified in accordance with applicable federal and state mitigation rules. *[Source: BAS report page 5-29. This Section allows proponents to use off-site mitigation programs, if/when they become available in the County. These programs offer flexibility to applicants, as well as improved mitigation outcomes.]*

17A.01. XXX Review Process

1. **Generally.** The procedures and requirements of KCC Title 15A, Project Permit Application Process apply. Compliance with critical area regulations will be evaluated as part of the review process for whichever permits an activity requires. The Director has the authority to condition permits for critical area compliance and mitigation
2. For all permits:
 - a. Determine if the project is adjacent to critical areas;
 - b. Determine whether critical area impacts are likely.
3. For projects likely to impact a critical area:
 - a. Require a critical area report from the applicant;
 - b. Review and evaluate the critical area report;
 - c. Determine whether the development proposal conforms to this Title;
 - d. Assess the potential impacts and determine if they can be avoided or minimized; and
 - e. Determine if any mitigation proposed by the applicant is sufficient.
4. **Request for Technical Assistance.** The Director may engage technical consultants to review and interpret critical area data and findings submitted by or on behalf of the proponent in instances where County staff lack the resources or expertise to review these materials. A project proponent may be required to pay for or reimburse the County for the review costs incurred. *[New. This gives the County authority to hire third-party reviewers for development proposals that the County does not have the staff, resources, or expertise to review. CAC may want to specify the trigger/threshold for allowing this review.]*
5. **Pre-Qualification of Consultants.** The Director shall prepare and maintain a list of qualified technical consultants and firms that meet the qualified professional standards detailed in Section 17A.XX. Any proposed consultant whose name is not on the list may submit a statement of qualifications including information on experience in the preparation of critical area studies. Upon approval of the submitted qualifications, the Director shall add the name to the list of qualified consultants. The Director may reject data and findings from non-pre-qualified consultants or require a third party review per Section 17A.XX. *[New. This is helpful to both the County and applicants, to make sure critical area consultants are qualified and do quality work]*

17A.01.XXX Relationships to Other Regulations

1. Critical areas regulations are in addition to zoning and other regulations.
2. Critical areas regulations shall apply concurrently with SEPA review.
3. Compliance with this Title does not constitute compliance with other agency requirements.
4. When there is a conflict, the more protective standard shall apply.

17A.01.XXX Administrative Procedures and Rules

1. Follow Kittitas County Code Title 15A, Project Permit Application Process
2. County can adopt rules, procedures, and forms necessary to implement this Title.

17A.01.XXX Best Available Science

All critical area reports and information prepared as part of the permit review process or for compliance with this Title shall use the best available science.

17A.01.XXX Variances

[CAC to discuss at October meeting.]

17A.01.XXX Enforcement

See KCC Title 18.

17A.01.XXX Severability

One part of the Title being invalid does not invalidate the whole.

DRAFT

Chapter 17A.02 DEFINITIONS

[Note to Reader: This Section will be built as we go, with definitions added as we need them.]

17A.02.XXX Generally.

Certain terms and words used in this title are defined in the following sections. Words used in the present tense include the future; words in the singular number include the plural number; and words in the plural number include the singular number. The word "shall" is mandatory. *[Similar to language in KCC Title 17]*

17A.02.XXX Activity.

"Activity" means human activity associated with the use of land or resources. *[Whatcom County CAO]*

17A.02.XXX Adjacent.

"Adjacent" means located:

1. On a site immediately adjoining a critical area;
2. A distance equal to or less than the required critical area buffer width and building setback;
3. A distance equal to or less than three hundred (300) feet from a fish and wildlife habitat conservation area or wetland;
4. Within the floodway, floodplain, or channel migration zone; or
5. A distance equal to or less than two hundred (200) feet from a critical aquifer recharge area.

[Commerce sample code] This is the trigger for when the regulations apply. This language impacts applicability of this Title – since project within or adjacent to critical areas are subject to these regulations.]

17A.02.XXX Agricultural Land.

"Agricultural land" means land primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees not subject to the excise tax imposed by *RCW 84.33.100 through 84.33.140, finfish in upland hatcheries, or livestock, and that has long-term commercial significance for agricultural production. *[RCW 36.70A.030]*

17A.02.XXX Alluvial Fan.

"Alluvial fan" or "Alluvial fan hazard area" is a low, outspread, relatively flat-to- gentle sloping features deposited by a stream at the transitional area between valley floodplains and steep mountain slopes. Channel pattern is highly variable, often dependent on substrate size and age of the landform. Channels may change course frequently, resulting in a multi-branched stream network. Channels can also be deeply incised within highly erodible alluvial material. *[Revised Final Draft SMP]*

17A.02.XXX Alteration.

"Alteration" means any human induced change in an existing condition of a critical area or its buffer. Alteration include, but are not limited to, grading, filling, channelizing dredging, clearing (vegetation), construction, compaction, excavation, or any other activity that changes the character of the critical area. *[Commerce sample code]*

17A.02.XXX Anadromous Fish.

“Anadromous Fish” means fish that spawn and rear in freshwater and mature in the marine environment. While Pacific salmon die after their first spawning, adult char (bull trout) can live for many years, moving in and out of saltwater and spawning each year. The life history of Pacific salmon and char contains critical periods of time when these fish are more susceptible to environmental and physical damage than at other times. The life history of salmon, for example, contains the following stages: upstream migration of adults, spawning, inter-gravel incubation, rearing, smoltification (the time period needed for juveniles to adjust their body functions to live in the marine environment), downstream migration, and ocean rearing to adults. *[Commerce sample code]*

17A.02.XXX Applicant.

“Applicant” means person who files an application for permit under this Chapter and who is either the owner of the land on which that proposed activity would be located, a contract purchaser, or the authorized agent of such a person. *[Commerce sample code]*

17A.02.XXX Aquifer.

“Aquifer” means geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring. *[Commerce sample code]*

17A.02.XXX Avalanche Hazard.

“Avalanche Hazard” means an area susceptible to a large mass of snow or ice, sometimes accompanied by other material, moving rapidly down a mountain slope. *[Commerce sample code]*

17A.02.XXX Avulsion.

"Avulsion" means a sudden cutting off or separation of land by a flood breaking through a meander or by a sudden change in current whereby the stream deserts its old channel for a new one. *[Revised Final Draft SMP]*

17A.02.XXX Best Available Science.

“Best Available Science” means scientific information applicable to the critical area prepared by local, state, or federal natural resource agencies, a qualified scientific professional, or team of qualified scientific professionals that is consistent with criteria established in WAC 365-195-900 through WAC 365-195-925. *[Commerce sample code]*

17A.02.XXX Buffer.

“Buffer” means an area that is contiguous to and protects a critical area which is required for the continued maintenance, function, and/or structural stability of a critical area. *[Commerce sample code]*

17A.02.XXX Channel Migration Zone.

Channel migration zone (CMZ) means the area along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings. *[Revised Final Draft SMP]*

17A.02.XXX Critical Aquifer Recharge Areas.

"Critical aquifer recharge areas" are areas with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge. *[WAC 365-190-030]*

17A.02.XXX Critical Areas.

"Critical areas" include the following areas and ecosystems: (a) Wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas;

(d) frequently flooded areas; and (e) geologically hazardous areas. "Fish and wildlife habitat conservation areas" does not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district or company. *[RCW 36.70A.030]*

17A.02.XXX Critical Area Tract.

"Critical area tract" means land held in private ownership and retained in an open condition in perpetuity for the protection of critical areas. *[Revised Final Draft SMP]*

17A.02.XXX Cumulative Impacts

"Cumulative Impacts" or "cumulative effects" means the combined, incremental effects of human activity on "ecological or critical areas functions and values. Cumulative impacts result when the effects of an action are added to or interact with other effects in a particular place and within a particular time. It is the combination of these effects, and any resulting environmental degradation, that should be the focus of cumulative impact analysis and changes to policies and permitting decisions. *[Commerce sample code]*

17A.02.XXX Dam.

"Dam" means a barrier or controlling and appurtenant works across a stream or river that does or can confine, impound or regulate flow or raise water levels for purposes such as flood or irrigation water storage, erosion control, power generation, or collection of sediment or debris. *[Revised Final Draft SMP]*

17A.02.XXX Development.

"Development" means any activity upon the land consisting of construction or alteration of structures, earth movement, dredging, dumping, grading, filling, mining, removal of any sand, gravel, or minerals, driving of piles, drilling operations, bulkheading, clearing of vegetation, or other land disturbance. Development includes the storage or use of equipment or materials inconsistent with the existing use. Development also includes approvals issued by the County that binds land to specific patterns of use, including but not limited to, subdivisions, short subdivisions, zone changes, conditional use permits, and binding site plans. Development activity does not include the following activities:

1. Interior building improvements.
2. Exterior structure maintenance activities, including painting and roofing.
3. Routine landscape maintenance of established, ornamental landscaping, such as lawn mowing, pruning, and weeding.
4. Maintenance of the following existing facilities that does not expand the affected area: septic tanks (routine cleaning); wells; individual utility service connections; and individual cemetery plots in established and approved cemeteries. *[Commerce sample code]*

17A.02.XXX Director.

"Director" means the director of the Kittitas County Community Development Services or designee. *[New]*

17A.02.XXX Ecological Functions.

"Ecological functions" means the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of aquatic and terrestrial environments that constitute the natural ecosystem. *[Revised Final Draft SMP]*

17A.02.XXX Emergency Activities.

"Emergency activities" means activities necessary to prevent an immediate threat to public health, safety, or welfare – or an immediate risk of damage to private property – that require remedial or

preventative action in a timeframe too short to allow for compliance with the requirements of this Title. *[Commerce sample code]*

17A.02.XXX Enhancement.

"Enhancement" means actions performed within an existing degraded critical area and/or buffer to intentionally increase or augment one or more ecological functions or values of the existing area. Enhancement actions include, but are not limited to, increasing plant diversity and cover; increasing wildlife habitat and structural complexity (snags, woody debris); installing environmentally compatible erosion controls; removing non-indigenous plant or animal species; or removing human-made structures or fill that are degrading ecological functions or values. *[Revised Final Draft SMP]*

17A.02.XXX Erosion.

"Erosion" means the process whereby wind, rain, water, and other natural agents mobilize and transport particles. *[Commerce sample code]*

17A.02.XXX Erosion Hazard Areas.

"Erosion hazard areas" are areas containing soils that may experience significant erosion, including:

1. Slopes forty percent (40%) or steeper with a vertical relief of ten (10) or more feet, except areas composed of consolidated rock.
2. Concave slope forms equal to or greater than fifteen percent (15%) with a vertical relief of ten (10) or more feet, except areas composed of consolidated rock.
3. Channel migration zones. *[WAC 365-190-080]*

17A.02.XXX Feasible.

"Feasible" means, for the purpose of this Title, that an action, such as a development activity, mitigation, or preservation requirement, meets all of the following conditions:

5. The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results;
6. The action provides a reasonable likelihood of achieving its intended purpose;
7. The action does not physically preclude achieving the activity's primary intended legal use; and
8. In cases where these guidelines require certain actions unless they are infeasible, the burden of proving infeasibility is on the applicant. In determining an action's infeasibility, the reviewing agency may weigh the action's relative public costs and public benefits, considered in the short- and long-term time frames. *[Revised Final Draft SMP]*

17A.02.XXX Feedlot.

"Feedlot" means the use of structures or pens for the concentrated feeding or holding of animals or poultry including, but not limited to, horses, cattle, sheep or swine. This definition includes dairy confinement areas, slaughterhouses, shipping terminal holding pens, poultry and/or egg production facilities and fur farms, but does not include animal husbandry and normal farming practices. *[Revised Final Draft SMP]*

17A.02.XXX Fill.

"Fill" means any solid or semi-solid material that when placed, changes the grade or elevation of the receiving site, including the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the ordinary high water mark (OHWM), in wetlands, or on shorelands in a manner that raises the elevation or creates dry land. *[Revised Final Draft SMP]*

17A.02.XXX Fish and Wildlife Habitat Conservation Areas.

"Fish and wildlife habitat conservation areas" are areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; areas with high relative population density or species richness; and locally important habitats and species, if so designated by the County. *[WAC 365-190-030]*

17A.02.XXX Floodway.

"Floodway" means the area, as identified in this Title, that either:

1. Has been established in Federal Emergency Management Agency (FEMA) flood insurance rate maps or floodway maps (defined as the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood (one hundred-(100)-year flood) without cumulatively increasing water surface elevation more than a designated height of one (1) foot); or
2. Consists of those portions of a river valley lying streamward from the outer limits of a watercourse upon which flood waters are carried during periods of flooding that occur with reasonable regularity, although not necessarily annually; said floodway being identified, under normal condition, by changes in surface soil conditions or changes in types or quality of vegetative ground cover condition, topography, or other indicators of flooding that occur with reasonable regularity, although not necessarily annually.

Regardless of the method used to identify the floodway, the floodway shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state.

17A.02.XXX Frequently Flooded Areas.

"Frequently flooded areas" are lands in the flood plain subject to at least a one percent or greater chance of flooding in any given year, or within areas subject to flooding due to high groundwater. These areas include, but are not limited to, streams, rivers, lakes, wetlands, and areas where high groundwater forms ponds on the ground surface. *[WAC 365-190-030]*

17A.02.XXX Geologically Hazardous Areas.

"Geologically hazardous areas" means areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events, are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns. *[RCW 36.70A.030]*

17A.02.XXX Geotechnical Analysis.

"Geotechnical analysis" or "geotechnical report" means a scientific study or evaluation conducted by a qualified expert that includes a description of the ground and surface hydrology and geology, the affected land form and its susceptibility to mass wasting, erosion, and other geologic hazards or processes, conclusions and recommendations regarding the effect of the proposed development on geologic conditions, the adequacy of the site to be developed, the impacts of the proposed development, alternative approaches to the proposed development, and measures to mitigate potential site-specific and cumulative geological and hydrological impacts of the proposed development, including the potential adverse impacts to adjacent and down-current properties. Geotechnical reports shall conform to accepted technical standards and must be prepared by qualified professional engineers or geologists who have professional expertise about the regional geologic conditions. *[Revised Final Draft SMP]*

17A.02.XXX Grading.

"Grading" means the movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land. *[Revised Final Draft SMP]*

17A.02.XXX Groundwater.

"Groundwater" means all the water that exists beneath the land surface or beneath the bed of any stream, lake or reservoir, or other body of surface water, whatever may be the geological formation or structure in which such water stands or flows, percolates or otherwise moves. *[Revised Final Draft SMP]*

17A.02.XXX Habitats of Local Importance.

"Habitats of local importance" designated as fish and wildlife habitat conservation areas include those areas found to be locally important by the County. *[WAC 365-190-030]*

17A.02.XXX Hazardous Substances.

"Hazardous Substances" means any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical, or biological properties described in WAC 173-303-090 or 173-303-100. *[Commerce's sample code]*

17A.02.XXX High Intensity Agricultural Activities.

"High intensity agricultural activities" are defined as: dairies, animal feed lots, nurseries, greenhouses, and like uses which are commercially operated.

17A.02.XXX Hobby Farm.

"Hobby farm" means a primary residence with an associated small farm, operated for pleasure or supplemental income, where the resident(s) and/or property owner(s) conduct agricultural activities similar to high intensity agricultural activities.

17A.02.XXX Hydric Soil.

"Hydric soil" means a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part.

17A.02.XXX Hyporheic Zone.

"Hyporheic zone" means the saturated zone located beneath and adjacent to streams that contains some portion of surface waters, serves as a filter for nutrients, and maintains water quality. *[Commerce's sample code]*

17A.02.XXX Impervious Surface.

"Impervious Surface" means a hard surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development or that causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled macadam or other surfaces which similarly impede the natural infiltration of stormwater. *[Commerce's sample code]*

17A.02.XXX In-Stream Structure.

"In-stream structure" is a structure other than a pier or dock, which is placed waterward of the ordinary high water mark and either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures include natural materials that are installed by humans, such as root wads and log jams, for the purposes of stream restoration.

17A.02.XXX Landslide Hazard Areas.

"Landslide hazard areas" are areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include any areas susceptible because of any

combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. The following shall be designated as landslide hazards:

1. Areas of historic failures, such as:
 - a. Those areas delineated by the Natural Resource Conservation Service (NRCS) as having a "severe" limitation for building site development; or
 - b. Areas designated as quaternary slumps, earth-flows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington State Department of Natural Resources Division.
2. Areas with all three (3) of the following characteristics:
 - a. Slopes steeper than fifteen percent (15%);
 - b. Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
 - c. Springs or groundwater seepage.
3. Areas that have shown movement and/or are underlain or covered by mass wastage debris;
4. Slopes that are parallel or sub-parallel to planes of weakness (which may include but not be limited to bedding planes, soft clay layers, joint systems, and fault planes) in subsurface materials;
5. Slopes having gradients steeper than eighty percent (80%) subject to rock fall during seismic shaking;
6. Areas that show evidence of, or are at risk from snow avalanches; and
7. Any area with a slope of forty percent (40%) or steeper and with a vertical relief of ten (10) or more feet except areas composed of competent bedrock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least ten (10) feet of vertical relief. *[WAC 365-190-080]*

17A.02.XXX Mine Hazard Areas.

"Mine hazard areas" are areas underlain by abandoned mine shafts, secondary passages between shaft tunnels, or air vents. Mine hazards include subsidence, which is the uneven downward movement of the ground surface caused by underground workings caving in; contamination to ground and surface water from tailings and underground workings; concentrations of lethal or noxious gases; and underground fires. *[WAC 365-190-080]*

17A.02.XXX Mining.

"Mining" means the removal of sand, gravel, soil, minerals, and other earth materials for commercial and other uses. Mining does not include mineral prospecting conducted according to WAC 220-110-200 through 220-110-206. *[Revised Final Draft SMP]*

17A.02.XXX Monitoring.

"Monitoring" means evaluating the impacts of development proposals on the biological, hydrological, and geological elements of such systems, and assessing the performance of required mitigation measures throughout the collection and analysis of data by various methods for the purpose of understanding and documenting changes in natural ecosystems and features, including gathering baseline data. *[Commerce's sample code]*

17A.02.XXX Must.

"Must" means a mandate; the action is required. *[Revised Final Draft SMP]*

17A.02.XXX Native Vegetation.

"Native Vegetation" means plant species that are indigenous to the area in question. *[Commerce's sample code]*

17A.02.XXX Naturally Occurring Ponds.

“Naturally occurring ponds” means those ponds and their submerged aquatic beds that provide fish or wildlife habitat, including those artificial ponds intentionally created from dry areas in order to mitigate impacts to ponds. Naturally occurring ponds do not include ponds deliberately designed and created from dry sites, such as canals, detention facilities, wastewater treatment facilities, farm ponds, temporary construction ponds, and landscape amenities, unless such artificial ponds were intentionally created for mitigation.

17A.02.XXX Nonconformity.

“Nonconformity” means a legally established existing use or legally constructed structure that is not in compliance with the current regulations. *[Revised Final Draft SMP]*

17A.02.XXX Ordinary High Water Mark (OHWM).

“Ordinary high water mark (OHWM)” on all lakes, streams, and tidal water means that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the Washington State Department of Ecology; provided that in any area where the OHWM cannot be found, the OHWM salt water shall be the line of mean higher high tide and the OHWM adjoining freshwater shall be the line of mean high water. *[Revised Final Draft SMP]*

17A.02.XXX Permeability.

“Permeability” means the capacity of an aquifer or confining bed to transmit water. It is a property of the aquifer or confining bed and is independent of the force causing movement. *[Commerce’s sample code]*

17A.02.XXX Primary Association Area.

“Primary association area” means the area used on a regular basis by, is in close association with, or is necessary for the proper functioning of the habitat of a critical species. Regular basis means that the habitat area is normally, or usually known to contain a critical species, or based on known habitat requirements of the species, the area is likely to contain the critical species. Regular basis is species and population dependent. Species that exist in low numbers may be present infrequently yet rely on certain habitat types. *[Commerce’s sample code]*

17A.02.XXX Priority Habitat.

“Priority habitat” means a habitat type or elements with unique or significant value to one or more species as classified by the state Department of Fish and Wildlife. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element. *[Commerce’s sample code]*

17A.02.XXX Priority Species.

“Priority species” means species requiring protective measures and/or management guidelines to ensure their persistence at genetically viable population levels. Priority species include State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations (e.g., heron colonies, bat colonies) considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable. A species identified and mapped as priority species fit one or more of the following criteria:

Criterion 1. State-Listed and Candidate Species:

State-listed species are native fish and wildlife species legally designated as Endangered (WAC 232-12-014), Threatened (WAC 232-12-011), or Sensitive (WAC 232-12-011). State Candidate species are fish and wildlife species that will be reviewed by the department

(POL-M-6001) for possible listing as Endangered, Threatened, or Sensitive according to the process and criteria defined in WAC-232-12-297.

Criterion 2. Vulnerable Aggregations:

Vulnerable aggregations include species or groups of animals susceptible to significant population declines, within a specific area or statewide, by virtue of their inclination to aggregate. Examples include heron rookeries, seabird concentrations, marine mammal haulouts, shellfish beds, and fish spawning and rearing areas.

Criterion 3. Species of Recreational, Commercial, and/or Tribal Importance:

Native and non-native fish and wildlife species of recreational or commercial importance, and recognized species used for tribal ceremonial and subsistence purposes, whose biological or ecological characteristics make them vulnerable to decline in Washington or that are dependent on habitats that are highly vulnerable or are in limited availability.

17A.02.XXX Public Facilities.

"Public facilities" include streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools. *[RCW 36.70A.030]*

17A.02.XXX Qualified Professional.

"Qualified Professional" means a person with experience and training with expertise appropriate for the relevant subject, in accordance with WAC 365-195-905(4). A qualified professional must have obtained a B.S. or B.A. degree or have appropriate education and experience in biology, soil science, engineering, environmental studies, fisheries, geology, geomorphology, or related field. *[Revised Final Draft SMP]*

17A.02.XXX Rehabilitation.

"Rehabilitation" means a type of restoration action intended to repair natural or historic functions and processes. Activities could involve breaching a dike to reconnect wetlands to a floodplain or other activities that restore the natural water regime. *[Revised Final Draft SMP]*

17A.02.XXX Repair or Maintenance.

"Repair or maintenance" means an activity that restores the character, scope, size, and design of a serviceable area, structure, or land use to its previously authorized and undamaged condition. Activities that change the character, size, or scope of a project beyond the original design and drain, dredge, fill, flood, or otherwise alter critical areas are not included in this definition. *[Commerce's sample code]*

17A.02.XXX Restore.

"Restore," "restoration" or "ecological restoration" means the re-establishment or upgrading of impaired critical area processes or functions. This may be accomplished through measures including, but not limited to, re-vegetation, removal of intrusive stream bank structures, and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the critical area to aboriginal or pre-European settlement conditions. *[Revised Final Draft SMP]*

17A.02.XXX Seismic Hazard Areas.

"Seismic hazard areas" are areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting. *[WAC 365-190-080]*

17A.02.XXX Setback.

"Setback" means the distance a building or structure is placed behind a specified limit such as a lot

line or buffer. *[Revised Final Draft SMP]*

17A.02.XXX Shorelines of the State.

"Shorelines" means all of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them; except (i) shorelines of statewide significance; (ii) shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second (20 cfs) or less and the wetlands associated with such upstream segments; and (iii) shorelines on lakes less than twenty (20) acres in size and wetlands associated with such small lakes. *[Revised Final Draft SMP]*

17A.02.XXX Shorelines of Statewide Significance.

"Shorelines of statewide significance" means the shorelines identified in RCW 90.58.030 which because of their elevated status require the optimum implementation of the Shoreline Management Act's policies. This includes all rivers with a mean annual flow of greater than two hundred cubic feet per second (200 cfs) and lakes with surface areas of one thousand (1,000) acres or more. *[Revised Final Draft SMP]*

17A.02.XXX Shorelines of the State.

"Shorelines of the state" are the total of all "shorelines" and "shorelines of statewide significance" within the state. *[Revised Final Draft SMP]*

17A.02.XXX Soft Armoring.

"Soft armoring" means stream bank erosion control practices using predominately natural materials in a design that minimizes impacts to natural processes.

17A.02.XXX Species of Local Importance.

"Species of local importance" are those species that are of local concern due to their population status or their sensitivity to habitat alteration or that are game species. *[WAC 365-190-030]*

17A.02.XXX Structure.

"Structure" means a permanent or temporary edifice or building, or any piece of work artificially built or composed of parts joined together in some definite manner, whether installed on, above, or below the surface of the ground or water, except for vessels. *[Revised Final Draft SMP]*

17A.02.XXX Unavoidable.

"Unavoidable" means adverse impacts that remain after all appropriate and practicable avoidance and minimization have been achieved. *[Commerce's sample code]*

17A.02.XXX Volcanic Hazard Areas.

Volcanic hazard areas are areas subject to pyroclastic flows, lava flows, debris avalanche, inundation by debris flows, mudflows, or related flooding resulting from volcanic activity. There are no active or dormant volcanoes located within Kittitas County; however Mount Rainer and Mount St. Helens are relatively near. Hazards to Kittitas County residents from these volcanoes are limited to ash deposition. *[WAC 365-190-080]*

17A.02.XXX Watercourse.

"Watercourse" means any portion of a channel, bed, bank, or bottom waterward of the ordinary high water line of waters of the state including areas in which fish may spawn, reside, or through which they may pass, and tributary waters with defined beds or banks, which influence the quality of fish habitat downstream. This definition includes watercourses that flow on an intermittent basis or which fluctuate in level during the year and applies to the entire bed of such watercourse whether or not the water is at peak level. This definition does not include irrigation ditches, canals, stormwater run-

off devices, or other entirely artificial watercourses, except where they exist in a natural watercourse that has been altered by humans. *[Commerce's sample code]*

17A.02.XXX Water Quality.

"Water quality" means the physical characteristics of water, including water quantity, hydrological, physical, chemical, aesthetic, recreation-related, and biological characteristics.

17A.02.XXX Water System.

"Water system" means any system providing water intended for, or used for, human consumption, domestic uses, or commercial businesses. It includes, but is not limited to, the source, purification, storage, transmission, pumping, and distribution facilities. *[Revised Final Draft SMP]*

17A.02.XXX Waters of the State.

"Waters of the state" means lakes, rivers, ponds, streams, inland waters, underground waters, and all other surface watercourses within the jurisdiction of the state of Washington, as classified in WAC 222-16-030.

17A.02.XXX Wellhead Protection Area.

"Wellhead protection area" means the portion of a zone of contribution for a well, wellfield, or spring, as defined using criteria established by the Washington State Department of Ecology. *[Commerce's sample code]*

17A.02.XXX Wetland.

"Wetland" or "wetlands" means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas created to mitigate conversion of wetlands. *[RCW 36.70A.030]*

Chapter 17A.03
CRITICAL AQUIFER RECHARGE AREAS (CARAs)

Sections:

- 17A.03.XXX Purpose and Intent
- 17A.03.XXX Classification, Designation, and Mapping
- 17A.03.XXX Applicability
- 17A.03.XXX Protection Standards
- 17A.03.XXX Reporting – Additional Requirements for Critical Aquifer Recharge Areas

17A.09.XXX Purpose and Intent

The purpose of this Chapter is to protect critical aquifer recharge areas from degradation resulting from new or changed land use activities. It is the intent of this Chapter to safeguard groundwater resources against contaminants from new land use activities. *[Source: Pierce Co. CAO]*

17A.03.XXX Classification, Designation, and Mapping

1. **Classification.** Lands within Kittitas County shall be classified as having either a high, medium, or low aquifer susceptibility as determined by the criteria established by the Washington State Department of Ecology. *[WAC 365-190-100]*
2. **Designation.** Critical aquifer recharge areas are areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of water. All lands classified as having moderate to high aquifer susceptibility—together with wellhead protection areas for Class A water systems—are hereby designated as critical aquifer recharge areas. *[WAC 365-190-030]*
3. **Mapping.** The general location and extent of critical aquifer recharge areas are shown on maps maintained by the County. These maps are useful as a guide for Kittitas County, project applicants, and/or property owners, and may be updated as more information on aquifer recharge and susceptibility becomes available. These maps are a reference and do not provide a conclusive or final critical area designation. *[WAC 365-190-100]*

17A.03.XXX Applicability

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;
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. Wells that inject hazardous or radioactive wastes into the ground. As classified by the Environmental Protection Agency, these include Class I, III, and IV wells and subclasses 5F01, 5D03, 5F04, 5W09, 5W10, 5W11, 5W31, 5X13, 5X14, 5X15, 5W20, 5X28, and 5N24 of Class V wells;
6. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces (both natural and manmade);
7. Commercial coal and ore mining operations;
8. Facilities that store, process, or dispose of chemicals containing perchloroethylene (PCE) or methyl tertiary butyl ether (MTBE); and
9. Any other use or activity that the Director determines – based on credible scientific information – is likely to have a significant adverse impact on ground water.

[Sources: BAS report page 4-7 to 10 and Commerce's sample code. The intent of this section is to clarify which high-risk uses require additional scrutiny when located in an area with the potential to contaminate groundwater. Mining added in response to CAC feedback.]

17A.03.XXX Protection Standards

1. **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 Kittitas County Public Health as a risk to groundwater quality, shall be designed and constructed to:
 - a. Prevent the release of such substances to the ground, ground waters, or surface waters;
 - b. 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;
 - c. Provide for release detection;
 - d. Provide written spill response and spill notification procedures to the local fire district;
 - e. 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
 - f. Comply with WAC 173-303 and 173-360 as well as International Building Code requirements. *[Source: Commerce sample code. These regulations are present in most, if not all, CAOs, are consistent with existing state and federal regulations]*
2. **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 activity.
3. **Reclaimed Water.** Use of reclaimed water must be in accordance with adopted water or sewer comprehensive plans that have been approved by Ecology.

17A.03.XXX Reporting—Additional Requirements for Critical Aquifer Recharge Areas

1. **When Required.** Except for storage tanks, all uses listed in 17A.03.XXX require County review and approval of a special hydrogeological assessment prepared by a qualified professional.
2. **Contents.** The hydrogeological assessment shall include the general critical area report requirements of KCC 17A.02.XXX in addition to the following:
 - a. Geologic setting and soils information for the site and surrounding area;
 - b. Water quality data, including pH, temperature, dissolved oxygen, conductivity, nitrates, and bacteria;
 - c. Location and depth of perched water tables;
 - d. Recharge potential of site (permeability/transmissivity);
 - e. Hydrologic budget;
 - f. Local groundwater flow, direction, and gradient;
 - g. 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;
 - h. Potential impacts to wellhead protection areas located within the site;
 - i. Surface water locations within one thousand (1,000) feet of the site;

- j. Discussion of the effects of the proposed project on groundwater quality and quantity;
- k. Recommendations on appropriate mitigation, if any, to assure that there shall be no measurable exceedence of minimum state groundwater quality standards or measurable reduction in available quantity of groundwater;
- l. Emergency management plan; and
- m. Containment release detection. *[Source: BAS report page 4-12. These are standard CARA reporting requirements that are present in most, if not all, recent CAOs]*

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Chapter 17A.04
FISH AND WILDLIFE CONSERVATION AREAS

Sections:

- 17A.04.XXX Purpose of Chapter
- 17A.07.XXX Designation, Mapping, and Classification
- 17A.07.XXX Buffers
- 17A.07.XXX General Protection Standards
- 17A.07.XXX Permitted Activities
- 17A.07.XXX Reporting—Additional Requirements for Habitat Conservation Areas

17A.04.XXX Purpose of Chapter

The purpose of this Chapter is to identify, designate, and protect regulated critical fish and wildlife species and habitats, including anadromous species and their habitats, consistent with best available science. [Source: Pierce Co. CAO]

17A.04.XXX Designation, Mapping, and Classification

1. **Designation.** Fish and wildlife habitat conservation areas include:
 - a. **Waters of the State.**
 - b. **Areas with Which Federally Designated Endangered, Threatened, and Sensitive Aquatic Species Have a Primary Association.** The U.S. Fish and Wildlife Service and the National Marine Fisheries Service should be consulted for current federal listing status.
 - c. **Areas with Which State Designated Endangered, Threatened, and Sensitive Aquatic Species Have a Primary Association.** The Washington State Department of Fish and Wildlife should be consulted for current state listing status.
 - d. **State Priority Habitats and Areas Associated With State Priority Species.** The state Department of Fish and Wildlife should be consulted for current listing of priority habitats and species.
 - e. **Habitats and Species of Local Importance.** Kittitas County recognizes that the priority habitats and species designated by the Washington Department of Fish and Wildlife that occur within the County are locally important, and are hereby designated as habitats and species of local importance.
 - f. **Naturally Occurring Ponds Under Twenty Acres. Lakes, Ponds, Streams, and Rivers Planted With Game Fish by a Government or Tribal Entity.**
 - g. **State Natural Area Preserves, Natural Resource Conservation Areas.** Natural area preserves and natural resource conservation areas are defined, established, and managed by the Washington State Department of Natural Resources.
 - h. **State Wildlife Areas** State wildlife areas are defined, established, and managed by the Washington State Department of Fish and Wildlife. [WAC 365-190-130]
2. **Mapping.** The approximate location and extent of fish and wildlife habitat conservation areas are shown on the County's critical area 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 shall update the maps periodically as new fish and wildlife habitat conservation areas are identified and as new information becomes available. [New]
3. **Habitat Boundary Survey.** If the Director determines that a non-aquatic habitat conservation area may be present within the project vicinity, he/she may require the habitat area to be delineated and/or mapped by a qualified professional who is knowledgeable of wildlife habitat within Kittitas County, or by the Washington Department of Fish and Wildlife. The management recommendations for Washington's priority habitats and species or federal

equivalent should be used as a tool for identifying and delineating the habitat. The County may waive this requirement if there is adequate information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures.

[New. The existing maps showing the locations of wildlife habitat areas are course-scale, and for planning purposes only. A survey performed by a qualified biologist is necessary to determine the precise boundary of a habitat area]

4. **Waters of the State Classification.** For this purposes of this Chapter, Kittitas County hereby adopts the water typing system specified in WAC 222-16-030, as described below:
 - a. **Type S:** all waters, within their ordinary high water mark, meeting the criteria as “shorelines of the state” and “shorelines of statewide significance” under RCW Chapter 90.58. The current list of Shoreline waters, along with their specific shorelines environments, is provided in the Kittitas County Shoreline Master Program (KCC Title XX). Type S streams and lakes are protected by the Shoreline Master Program, rather than this Title.
 - b. **Type F:** segments of natural waters other than Type S Waters, 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.
 - c. **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.
 - d. **Type Ns:** All segments of natural waters within the bankfull width of the defined channels that are not Type S, 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 Water. Ns Waters must be physically connected by an above-ground channel system to Type S, F, or Np Waters. *[WAC 222-16-030]*

17A.04.XXX Buffers

1. **Purpose.** Buffers shall be established and maintained to protect regulated habitat conservation areas.
2. **Measurement.** Buffers for aquatic habitat conservation areas shall be measured in all directions from the ordinary high water mark (OHWM) as identified in the field. Buffers for other habitat types shall be measured in all directions from the habitat boundary, as mapped by the Washington State Department of Fish and Wildlife or qualified professional pursuant to 17A.04.XXX.
3. **Alterations.** Alteration of habitat conservation area buffers are prohibited, except in accordance with this Title. Habitat conservation area buffers shall be maintained in a predominantly well-vegetated and undisturbed condition.
4. **Standard Buffers.**

Table 17A.04.XXX: Standard Buffer Widths

Habitat Conservation Area	Buffer Width ^{1, 2}
Type S Waters	See SMP, Title XXX KCC
Type F Waters	100 feet
Type Np Waters	50 feet

Type Ns Waters	30 feet
Other	Case-by-case ³

¹ Interrupted buffers: When a habitat conservation area buffer contains an existing legally established public or private road, the Director may allow an activity on the landward side of the road provided that the activity will not have a detrimental impact to the habitat area. The Director may require a habitat management plan if – after considering the hydrologic, geologic, and/or biological habitat connection potential and the extent and permanence of the buffer interruption – such a plan is deemed necessary to confirm the lack of detrimental impact on the habitat area. *[New. This regulation recognizes that buffers must be continuous in order to effectively protect habitat areas. This language is common in CAOs]*

² Multiple buffers: In the event that buffers for any habitat conservation area or other critical area are contiguous or overlapping, the landward-most edge of all such buffers shall apply.

³ Appropriate site- and species-specific buffers for non-aquatic habitats shall be determined by the Washington Department of Fish and Wildlife or by a qualified professional biologist knowledgeable of habitat within Kittitas County and documented in an approved Habitat Management Plan.

5. **Increased Buffers.** The Director shall increase the aquatic habitat conservation area buffer width where the standard buffer is inadequate to prevent significant adverse environmental impacts or address hazards associated with the site or the proposed development activity. The Director may increase the buffer up to a maximum of two times the standard width. The Director shall consider increasing the buffer when any of the following conditions are present:
 - a. The composition, quality and density of the buffer vegetation is insufficient to protect the habitat area;
 - b. There is evidence of historical or current susceptibility to severe erosion, channel instability, or aggrading;
 - c. There are multiple channels or islands present; or
 - d. The land adjacent to the ordinary high water mark and extending throughout the standard habitat buffer is steeply sloped (greater than forty percent (40%) slope) and there are no designated landslide hazards such that an increased buffer may be required to protect ecological functions.
6. **Buffer Averaging.** The Director may allow averaging of the standard buffer widths in accordance with an approved habitat management plan on a case-by-case basis, when necessary to accommodate a single family residential development or residential development of four (4) lots or less. With buffer averaging, the buffer width is reduced in one location and increased in another location to maintain the same overall buffer area. Proposals for buffer averaging shall meet all of the following:
 - a. The aquatic habitat buffer has not been averaged or reduced by any prior actions administered by Kittitas County;
 - b. No feasible site design could be accomplished without buffer averaging;
 - c. The buffer averaging will not reduce aquatic habitat functions or adversely affect salmon habitat;
 - d. The minimum width of the buffer at any given point is at least seventy-five percent (75%) of the standard width, or twenty-five (25) feet, whichever is greater; and
 - e. The area that is added to the buffer to offset the reduction is well-vegetated. The Director may require vegetation enhancement if needed to ensure this criterion is met.
7. **Buffer Reduction.** The Director may allow reduction of the standard buffer widths when necessary to accommodate a single family residence or residential development of four (4) lots or less. The buffer reduction shall be allowed only in those limited instances when

adherence to the standard buffer is infeasible or presents a substantial hardship because of site conditions, lot configuration or other circumstances. Proposals for buffer reduction may be allowed with an approved habitat management plan that demonstrates all of the following:

- a. The buffer has not been averaged or reduced by any prior actions administered by Kittitas County;
- b. The activity cannot be accomplished using buffer averaging instead of buffer reduction;
- c. The buffer reduction will not reduce aquatic habitat functions or adversely affect salmon habitat;
- d. The existing buffer is predominantly un-vegetated, composed of nuisance species, or is in an otherwise highly disturbed condition;
- e. The minimum width of the reduced buffer is at least seventy-five percent (75%) of the standard buffer;
- f. The reduced portion of the buffer cannot exceed forty percent (40%) of the buffer length on the development property (in other words, in a one hundred (100) foot long segment of buffer, the reduced buffer could be up to forty (40) feet long);
- g. The reduced buffer area is planted and enhanced with species native to central Washington; and
- h. A mitigation plan is developed and implemented, per the requirements of Section 17A.01.XXX. *[Source: BAS report pages 6-69 to 6-70]*

17A.04.XXX General Protection Standards

1. **Alterations.** All activities shall be prohibited from habitat conservation areas and their buffers, except in accordance with this Title. A habitat conservation area or buffer may be altered only if the proposed alteration of the habitat and/or any required compensatory mitigation does not degrade the functions and values of the habitat. *[Source: Commerce's sample code]*
2. **Mitigation Requirement.** Mitigation of alterations to habitat conservation areas and their buffers shall meet the requirements of Section 17A.04.XXX. *[Source: Commerce's sample code]*
3. **Anadromous Fish.** All activities proposed to be located in aquatic habitat conservation areas used by anadromous fish or in areas that affect such areas shall give special consideration to the preservation and enhancement of anadromous fish habitat, including, but not limited to, adhering to the following standards:
 - a. An alternative alignment or location for the activity is not feasible;
 - b. The activity is designed so that it will not degrade the functions or values of the fish habitat or other critical areas;
 - c. Stream bank erosion control measures shall be designed to use bioengineering methods or soft armoring techniques, according to an approved habitat management plan, and
 - d. Any impacts to the functions or values of the habitat conservation area are mitigated in accordance with a habitat management plan. *[Source: Commerce's sample code]*
4. **Timing Restrictions.**
 - a. **Fish.** In-water work activities shall be timed to occur only during the allowable work window as designated by the Washington Department Fish and Wildlife for the applicable species and aquatic habitat conservation area type.
 - b. **Wildlife.** The County shall impose limitations on construction activities during breeding and/or nesting periods for priority species when necessary to protect the species and avoid adverse impacts. Appropriate timing restrictions for wildlife species shall be based upon best available science and WDFW recommendations. *[Source: BAS report page 6-71]*

17A.04.XXX Permitted Activities

The following activities may be permitted in habitat conservation areas and/or their buffers when all reasonable measures have been taken to avoid and mitigate adverse effects on species and habitats and a net loss of habitat functions will not occur.

1. **Clearing and Grading.** When clearing and grading is permitted in a habitat conservation area or buffer as part of an authorized activity or as otherwise allowed in these standards, the following shall apply:
 - a. Grading is allowed only during the dry season, as determined by the Director;
 - b. Clearing and grading shall be limited to the minimum necessary to accomplish the activity; and
 - c. Erosion and sediment control that meets or exceeds the standards set forth in the current version of the Stormwater Manual for Eastern Washington.
2. **Stream Bank Stabilization.** Stream bank stabilization and protection shall be permitted subject to all of the following standards:
 - a. Natural riverine processes, including channel migration, will be maintained to the maximum extent practicable;
 - b. The activity will not result in increased erosion and will not alter the size or distribution of stream substrate;
 - c. Nonstructural measures, such as placing or relocating the development further from the aquatic habitat area, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient;
 - d. Stabilization is achieved through bioengineering or soft armoring techniques; and
 - e. Hard bank armoring may occur only when the property contains a primary existing legally-established permanent structure that is in danger from erosion caused by riverine processes, as documented in a geotechnical analysis prepared by a qualified professional. The armoring shall not increase erosion on adjacent properties.
3. **Docks and Launching Ramps.** Construction, reconstruction, repair, and maintenance of docks and public or private launching ramps are subject to all of the following:
 - a. The dock or ramp is located and oriented and constructed in a manner that minimizes adverse effects on water quality, movement of aquatic and terrestrial life, ecological processes, spawning habitat, and wetlands;
 - b. Docks and ramps shall meet or exceed all relevant state and federal permit requirements; and
 - c. No adverse impact to fish or wildlife habitat areas or associated wetlands will occur.
4. **Roads, Trails, Bridges, and Rights-of-Way.** Construction of trails, roadways, and bridges through or across streams, other habitat conservation areas and/or their buffers are subject to all of the following:
 - a. There is no other feasible alternative route with less impact on the habitat conservation area;
 - b. The crossing minimizes interruption of downstream movement of wood and gravel and the movement of all fish and wildlife. Bridges are preferred for all stream crossings and should be designed to maintain the existing stream substrate and gradient, provide adequate clearance on each side of the ordinary high water mark, and provide adequate vertical clearance above the ordinary high water mark;
 - c. Roads that occur within a stream buffer shall not run parallel to the water body when there is an alternative alignment that has less adverse effect on stream functions;
 - d. Trails shall be located on the outer edge of the habitat conservation area buffer, except for limited viewing platforms and crossing;
 - e. Stream crossings, where necessary, shall only occur as near to the perpendicular with the stream as possible and be limited to the minimum width necessary. Common crossings are the preferred approach where multiple property can be accessed by one crossing; and

- f. Culverts shall be designed according to applicable state and federal guidance criteria for fish passage as identified in Fish Passage Design at Road Culverts, WDFW, 2003, and/or the National Marine Fisheries Services Guidelines for Salmonid Passage at Stream Crossings, 2001, (and subsequent revisions). The applicant or property owner shall maintain fish passage through the culvert; and
 - g. Trails and associated viewing platforms shall use pervious materials where feasible.
5. **Utility Facilities.** New utility lines and facilities may cross habitat conservation areas if they comply with the following standards:
 - a. There is no other feasible alternative route with less impact on the habitat conservation area;
 - b. Installation shall be accomplished by boring beneath the scour depth and hyporheic zone of the stream and channel migration zone, where feasible;
 - c. The utilities shall cross at an angle greater than sixty (60) degree to the centerline of the channel in stream or perpendicular to the channel centerline whenever boring under the channel is not feasible;
 - d. Crossings shall be contained within the footprint of an existing road or utility crossing where possible;
 - e. The utility route shall avoid paralleling the stream or following a down-valley course near the channel; and
 - f. The utility installation shall not increase or decrease the natural rate of channel migration.
6. **Instream Structures.** Instream structures shall only be allowed as part of a County-approved restoration project. The structure shall be designed to avoid modifying flows and water quality in ways that may adversely affected habitat conservation areas.
7. **Stormwater Conveyance and Discharge Facilities.** Storm water conveyance or discharge facilities such as dispersion trenches, level spreaders, and outfalls may be placed within a habitat conservation area buffer on a case-by-case basis when the Director determines that all of the following are met:
 - a. Due to topographic or other physical constraints, there are no feasible locations for these facilities outside the buffer;
 - b. The discharge is located as far from the ordinary high water mark as possible and in a manner that minimizes disturbance of soils and vegetation;
 - c. The discharge outlet is designed to prevent erosion and promote infiltration; and
 - d. The discharge meets state water quality standards, including total maximum daily load (TMDL) standards as appropriate at the point of discharge.
8. **Onsite Sewage Systems and Wells.**
 - a. New on-site sewage systems and individual wells may be placed within aquatic habitat conservation area buffers only if accessory to an approved residential structure, for which it is not feasible to connect to a public sanitary sewer system.
 - b. Repairs to failing on-site sewage systems associated with an existing structure shall be accomplished by utilizing one of the following methods that result in the least impact:
 - i. Connection to an available public sanitary sewer system;
 - ii. Replacement with a new on-site sewage system located in a portion of the site that has already been disturbed by development and is located landward as far as possible, provided the proposed sewage system is in compliance with the Kittitas county Health Department; or
 - iii. Repair to the existing on-site septic system. *[Sources: Commerce's sample code and Whatcom County CAO. This list can and should be revised (if needed) to address County-specific issues and development types]*

17A.04.XXX Reporting—Additional Requirements for Habitat Conservation Areas

1. **When Required.** If a proposed activity is located within or adjacent to a known or suspected habitat conservation area, the Director shall require the applicant to submit a habitat management plan prepared by a qualified professional that includes the information listed in this Section. The requirement to provide a habitat conservation plan for habitat conservation areas may be waived 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 activity. *[New. The specific requirements for when a report is required could potentially be revised].*
2. **Contents.** When required by this Chapter, habitat management plans for habitat conservation shall include the general critical area report requirements of KCC 17A.02.XXX in addition the following:
 - a. Identification of any endangered, threatened, sensitive, or candidate species that have a primary association with habitat on the project area;
 - b. Map showing the location of the ordinary high water mark and/or locations of wildlife habitat conservation area(s) and their buffers in accordance with Section 17A.04.XXX;
 - c. The vegetative, faunal, topographic, and hydrologic characteristics of the habitat conservation area;
 - d. 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;
 - e. A detailed discussion of the direct and/or indirect potential impacts on the 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;
 - f. The general mitigation plan requirements of Section 17A.02.XXX as well as the habitat conservation area mitigation requirements of Section 17A.04.XXX, if the activity will result in unavoidable impacts to habitat conservation areas; and
 - g. Methods and measures to avoid, minimize and/or compensate for adverse impacts associated with the proposed use and development, including, but not limited to:
 - i. Prohibition or limitation of use and development activities within the habitat conservation area;
 - ii. Retention of vegetation and/or re-vegetation of areas/habitats critically important to species;
 - iii. Special construction techniques;
 - iv. Implementation of erosion and sediment control measures;
 - v. Habitat restoration or enhancement (i.e., fish passage barrier removal);
 - vi. Seasonal restrictions on construction activities on the subject property;
 - vii. Clustering of development activities on the subject property; and
 - viii. 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 guidelines. *[Source: BAS report page 6-68]*

17A.04.XXX Mitigation Requirements

1. **Generally.** Mitigation of alteration to habitat 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 to be addressed 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. *[Source: Pierce County CAO]*

2. **Buffer for Aquatic Habitat Conservation Mitigation Sites.** Any aquatic habitat conservation area that is created, restored, or enhanced as compensation for approved alterations shall be the same as the buffer required for the category of the created, restored, or enhanced aquatic habitat conservation area.
3. **Type of Mitigation Required.** In determining the extent and type of mitigation required, the Director may consider all of the following:
 - a. The ecological processes that affect and influence habitat structure and function within the watershed or sub-basin;
 - b. The individual and cumulative effects of the action upon the functions of the critical area and associated watershed;
 - c. Observed or predicted trends regarding the gains or losses of specific habitats or species in the watershed, in light of natural and human processes;
 - d. The likely success of the proposed mitigation measures;
 - e. Effects of the mitigation actions on neighboring properties; and
 - f. Opportunities to implement restoration actions formally identified by an adopted shoreline restoration plan, watershed planning document prepared and adopted pursuant to Chapter 90.82 RCW, a salmonid recovery plan or project that has been identified on the Salmon Recovery Board Habitat Project List or by the Washington State Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement. *[Source: Whatcom County CAO]*
4. **Timing.** Where feasible, mitigation projects shall be completed prior to activities that will disturb habitat conservation areas. In all other cases, mitigation shall be completed as quickly as possible following disturbance and prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing fish, wildlife and flora; provided, that the Director may adjust the timing requirements to allow grading, planting, and other activities to occur during the appropriate season(s).
5. **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.
6. **Design.** Mitigation projects involving in-water work including, but not limited to, stream relocation and installation of large woody debris shall be professional engineered and designed to ensure there are no adverse hydraulic effects on upstream or downstream properties.

Chapter 17A.05 FREQUENTLY FLOODED AREAS

Sections:

17A.05.XXX	Purpose of Chapter
17A.05.XXX	Designation and Mapping
17A.05.XXX	Protection Standards
17A.05.XXX	Reporting—Additional Requirements for Frequently Flooded Areas
17A.05.XXX	Compensatory Mitigation Requirements

17A.05.XXX Purpose of Chapter

It is the purpose of this Chapter to reduce the risk to life, property damage, and public facilities that result from floods; mitigate flood hazards that may be exasperated by climate change; and to protect fish and wildlife habitats that occur within frequently flooded areas. *[Source: BAS report page 3-16]*

17A.05.XXX Designation and Mapping

1. **Mapped Areas.** All lands classified as floodway or special flood hazard areas in the Federal Emergency Management Agency report titled “The Flood Insurance Study for the County of Kittitas County” dated November 5, 1980, as now or hereafter amended, with accompanying Flood Insurance Rates and Boundary Maps, are designated as frequently flooded areas. The study and maps are on file at Kittitas County. *[KCC 14.08.030 / WAC 365-190-030(8)]*
2. **Other Areas.** The Flood Insurance Study maps may not show all potential flood hazard areas. The Director may designate unmapped frequently flooded areas. Such designations may be appealed pursuant to Section 14.08.160. The Director’s designation of an unmapped frequently flooded area shall be based upon the following criteria:
 - a. Documented history of flood damage;
 - b. Presence of alluvial fan hazards and/or channel migration zones; and/or
 - c. Evidence of stream channel instability and susceptibility to erosion.

[New. Some areas of the County experience flooding events that are not depicted on the FEMA maps; this regulation allows the Director flexibility to help protect floodplains, people, and property in these areas]

17A.05.XXX Protection Standards

1. **Avoidance.** New structures shall be located outside of frequently flooded areas, when possible. *[Source: BAS report, page 3-19. This regulation is also consistent with the mitigation sequencing requirement described above]*
2. **Floodplain Storage.** New uses or developments shall not reduce the effective flood storage volume within a frequently flooded area. If proposed grading, fill, or other activity would reduce effective flood storage volume, then mitigation per Section 17A.05.XXX is required. *[Source: BAS report page 3-21. The intent is to mitigate for floodplain development, so that a downstream increase in flood risk does not result. The CAC may wish to refine this regulation to provide clarity and guidance for applicants about when mitigation would be required]*

17A.05.XXX Reporting—Additional Requirements for Frequently Flooded Areas

The Director’s approval of a new use or development within a frequently flooded area shall be contingent upon reporting that meets the requirements of Sections 14.08.110 through 14.08.130, the general critical area report requirements of Section 17A.05.XX, and the following:

1. The nature, location, dimensions, and elevations of the project property;

2. Names and location of all lakes, waterbodies, streams, and drainage facilities within 300 feet of the site;
3. The proposed drainage system including, but not limited to, storm sewers, overland flow paths, detention facilities, and roads;
4. Existing and proposed structures, fill, pavement, and other impervious surfaces, and locations for storage of hazardous materials;
5. Existing native vegetation and proposed clearing limits; and
6. If the development proposal involves grading, excavation, or filling, include proposed post-development terrain at one foot contour intervals. *[BAS report page 3-17. These are standard floodplain reporting requirements that are found in most, if not all, CAOs]*

17A.05.XXX Compensatory Mitigation Requirements

1. **Floodplain Storage.** If proposed grading, fill, or other activity would reduce effect flood storage volume by more than ten (10) cubic yards, then compensatory storage is required. Compensatory storage shall comply with KCC 14.08.315 and the following:
 - a. Provide equivalent volume at equivalent elevations to that being displaced. For this purpose, "equivalent elevation" means having similar relationship to ordinary high water and to the best available ten (10)-year, fifty (50)-year, and one hundred (100)-year water surface profiles;
 - b. Provide flood storage that is hydrologically connected to the source of flooding;
 - c. Provide flood storage in an area that is vegetated;
 - d. Consider the existing and future ecological hydrologic functions of the impact and mitigation sites;
 - e. Result in no net rise of flood elevations (when the mitigation will occur at a distance from the fill location);
 - f. Provide flood storage in the same construction season as when the displacement of flood storage volume occurs and before the flood season begins; and
 - g. If the newly created storage area is accessible to fish during flood events, the area shall be designed, graded, and maintained to prevent fish stranding.
2. **Floodplain Storage Site Selection.** The order of preference for selecting floodplain storage sites shall be:
 - a. Onsite flood storage;
 - b. Off-site flood storage in close proximity upstream or downstream of the floodplain fill location; and
 - c. Off-site flood storage in a location further upstream or downstream of the floodplain fill location.
3. **Floodplain Storage Mitigation Plans.** When required by Section 17A.05.XX, floodplain storage mitigation plans shall be prepared by an engineer or geologist licensed in the state of Washington and address the general mitigation plan requirements of Section 17A.05.XX, as well as the following:
 - a. Potential that materials may be swept during flooding onto other lands to the detriment of others;
 - b. Actual danger to life and property if flooding or erosion occurs;
 - c. Susceptibility of the proposed development and its contents to flood damage;
 - d. Availability of alternative locations for the proposed use which are not subject to flood or erosion damage;
 - e. Relationship of the proposed use to any comprehensive flood hazard managements plans adopted pursuant to RCW Chapter 86.12;
 - f. Safety of access to the property in times of flooding for ordinary and emergency vehicles;
 - g. Expected heights, velocity, duration, rate or rise, and sediment transport of the flood waters and the effects of wave action at the site;

- h. Costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities;
- i. Location and extent of storage area for floodwater which will be displaced by the proposed development; and
- j. The risk of public and provide property and public health, safety, and welfare due to rising of water levels, shifting of stream channels (including related erosion) as well as costs to individuals and the general public for items which are not insured such as loss of productivity due to closed roads, risk to emergency response workers, loss of uninsured property (cars, landscaping, etc.) and habitat damage as a result of loss of riparian zones and floodplain function. *[Source: BAS report, pages 3-20 to 23. A review of the BAS shows that compensatory floodplain storage is necessary to maintain floodplain functions and values. The CAC may wish to refine these provisions to provide clarity and guidance to applicants]*

DRAFT

Chapter 17A.06
GEOLOGICALLY HAZARDOUS AREAS

Sections:

17A.06.XXX	Purpose of Chapter
17A.06.XXX	Designation, Classification, and Mapping
17A.06.XXX	General Protection Standards
17A.06.XXX	Landslide Hazard Area Standards
17A.06.XXX	Erosion Hazard Area Standards
17A.06.XXX	Alluvial Fan Hazard Standards
17A.06.XXX	Seismic Hazard Standards
17A.06.XXX	Volcanic Hazard Areas
17A.06.XXX	Mine Hazard Areas
17A.06.XXX	Reporting—Additional Requirements for Erosion, Mine, and Landslide Hazard Areas, Excluding Channel Migration Zones
17A.06.XXX	Reporting—Additional Requirements for Channel Migration Zones

17A.06.XXX Purpose of Chapter

The purpose of this Chapter is to protect human life and safety, prevent damage to structures and property, and minimize impacts to water quality and fish and wildlife caused by geologic hazards.
[NEW]

17A.06.XXX Designation, Classification, and Mapping

1. **Designation.** Lands classified as landslide, erosion (including channel migration zones), alluvial fan, seismic, and mine hazard areas, are hereby designated as geologically hazardous areas. *[RCW 36.70A.030]*
2. **Classification.**
 - a. **Landslide Hazard Areas.** Landslide hazard areas shall include areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include any areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. Landslide hazard areas shall be further classified as follows:
 - i. Areas of historic failures, such as:
 1. Those areas delineated by the Natural Resource Conservation Service (NRCS) as having a “severe” limitation for building site development; or
 2. Areas designated as quaternary slumps, earth-flows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington State Department of Natural Resources.
 - ii. Areas with all three (3) of the following characteristics:
 1. Slopes steeper than fifteen percent (15%);
 2. Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
 3. Springs or groundwater seepage.
 - iii. Areas that have shown movement and/or are underlain or covered by mass wastage debris;
 - iv. Slopes that are parallel or sub-parallel to planes of weakness (which may include but not be limited to bedding planes, soft clay layers, joint systems, and fault planes) in subsurface materials;

- v. Slopes having gradients steeper than eighty percent (80%) subject to rock fall during seismic shaking;
 - vi. Areas that show evidence of, or are at risk from snow avalanches; and
 - vii. Any area with a slope of forty percent (40%) or steeper and with a vertical relief of ten (10) or more feet except areas composed of competent bedrock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least ten (10) feet of vertical relief.
- b. **Erosion Hazard Areas.** Erosion hazard areas shall include areas containing soils that may experience significant erosion, including:
- i. Slopes forty percent (40%) or steeper with a vertical relief of ten (10) or more feet, except areas composed of consolidated rock.
 - ii. Concave slope forms equal to or greater than fifteen percent (15%) with a vertical relief of ten (10) or more feet, except areas composed of consolidated rock.
 - iii. Channel migration zones, which are defined as the areas along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings.
- c. **Alluvial Fan Hazard Areas.** Alluvial fan hazard areas shall include those areas on alluvial fans where debris flows, debris floods, or clear water floods have the potential to significantly damage or harm the health or welfare of the community. They include the area generally corresponding to the path of potential flooding, channel changes, sediment and debris deposition, or debris flow paths as determined by analysis of watershed hydrology and slope conditions, topography, valley bottom and channel conditions, potential for channel changes, and surface and subsurface geology.
- d. **Seismic Hazard Areas.** Seismic hazard areas shall include areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting.
- e. **Volcanic Hazard Areas.** Volcanic hazard areas shall include areas subject to pyroclastic flows, lava flows, debris avalanche, inundation by debris flows, mudflows, or related flooding resulting from volcanic activity. There are no active or dormant volcanoes located within Kittitas County; however Mount Rainer and Mount St. Helens are relatively near. Hazards to Kittitas County residents from these volcanoes are likely limited to ash deposition.
- f. **Mine Hazard Areas.** Mine hazard areas shall include areas underlain by abandoned mine shafts, secondary passages between shaft tunnels, or air vents. Mine hazards include subsidence, which is the uneven downward movement of the ground surface caused by underground workings caving in; contamination to ground and surface water from tailings and underground workings; concentrations of lethal or noxious gases; and underground fires. *[WAC 365-190-080]*
3. **Mapping.** The approximate location and extent of geologically hazardous areas are shown on maps maintained by the County. These maps are useful as a guide for project applicants and/or property owners but do not provide a conclusive or definitive indication of geologically hazardous area presence or extent. Other geologically hazardous areas may exist that do not appear on the maps, and some geologically hazardous areas that appear on the maps may not meet the geologically hazardous areas designation criteria. The County shall update the maps periodically as new information becomes available and may require additional studies during the development review process to supplement and/or confirm the mapping. Historic maps showing the locations of known coal mines within the County are available from the Washington Department of Natural Resources. *[NEW]*

17A.06.XXX General Protection Standards

1. **Generally.** New developments shall be engineered and/or constructed to minimize risk to health and safety, protect the building and occupants from the hazard, and avoid or compensate for impacts to other critical areas such as wetlands and habitat conservation areas. The Director may impose conditions on development activity in a geologically hazardous area as needed to:
 - a. Protect slope stability and minimize erosion, seismic, and/or landslide hazard risks;
 - b. Maintain natural sediment and erosion processes that are integral to the health and sustainability of freshwater ecosystems;
 - c. Minimize the potential for property damage related to seismic events, erosion and/or landslides;
 - d. Minimize the need for stream bank stabilization in the future;
 - e. Protect human health and safety; and
 - f. Reduce public liabilities for damages associated with seismic events, erosion and/or landslides
2. **Impact Avoidance.** Impact avoidance measures shall include, but not be limited to, locating the use/development outside of the hazard area, reducing the number, size or scale of buildings, driveways and other features; altering the configuration or layout of the proposed development; using environmentally favorable construction materials; implementing special engineering methods for construction, drainage, runoff management etc.; foregoing construction of accessory structures; preserving native vegetation; and other reasonable measures. *[Source: BAS report and SMP]*
3. **Location of Alterations.** New development shall be directed toward portions of a parcel or parcels under contiguous ownership that are not subject to, or at risk from, geological hazards and/or are outside any buffer established by this Chapter. *[Source: BAS report]*
4. **Critical Facilities Prohibited.** Critical facilities shall not be sited within landslide, erosion, alluvial fan, or mine hazard areas unless there is no other practical alternative. *[Source: Commerce's sample code]*
5. **Review by Qualified Professional.** A qualified engineer or engineering geologist, licensed in the state of Washington, shall review development projects that occur in areas at risk of landslide, erosion, alluvial fan, and mine hazards to ensure that they are properly designed and constructed. *[Source: BAS report]*
6. **Life of Structure.** Proposed structures shall be sited far enough from erosion and landslide hazard areas to ensure one hundred (100) years of useful life for the proposed structure(s) or infrastructure, as determined by a qualified engineer or engineering geologist, licensed in the state of Washington.

17A.06.XXX Landslide Hazard Area Standards

1. **Generally.** Activities may be allowed adjacent to landslide hazard areas, provided that all responsible measures have been taken to minimize risks and other adverse effects, and the amount and degree of the alteration are limited to minimum needed to accomplish the project purpose. Prior to approving a new development activity in or adjacent to a landslide hazard area the Director shall determine that all of the following standards are met:
 - a. The activity includes all appropriate measures to eliminate, reduce, or otherwise mitigate risks to health and safety;
 - b. The activity is located outside of a landslide hazard area and any required buffer, as determined by a qualified engineer, engineering geologist, or geologist, licensed in the state of Washington;
 - c. The activity will not decrease slope stability on adjacent properties;
 - d. The activity shall not increase the risk or frequency of landslide occurrences;
 - e. The removal and disturbance of vegetation, clearing, or grading shall be limited to the area of the approved activity;
 - f. The activity is located at least 100 feet outside of the area of upslope or downslope surface movement or deposition in the event of a slope failure;

- g. The activity will not increase surface water discharge or sedimentation to adjacent properties beyond predevelopment conditions;
 - h. The proposed alterations will not adversely impact other critical areas; and
 - i. Structures and improvements are designed to minimize alterations to the slope contour, and minimize impervious lot coverage unless such alterations or impervious surfaces are needed to maintain slope stability. *[New. The purpose is to detail the protection measures needed to protect people and property from landslide hazard areas]*
2. **Permitted Activities.** The following activities may be allowed in landslide hazard areas when all reasonable measures have been taken to minimize risks and other adverse effects associated with landslide hazards, and when the amount and degree of alteration is limited to the minimum needed to accomplish the activity:
- a. **Above-Ground Utility Lines and Pipes.** Utility lines and pipes that are above-ground, properly anchored and/or designed so that they will continue to function in the event of a slope failure or movement of the underlying materials and will not increase the risk or consequences of static or seismic slope instability or result in a risk of mass wasting. Such utility lines may be permitted only when the applicant demonstrates that no other feasible alternative is available to serve the affected population.
 - b. **Access Roads and Trails.** Access roads and trails that are engineered and built to standards that avoid the need for major repair or reconstruction beyond that which would be required in non-hazard areas. Access roads and trails may be permitted only if the applicant demonstrates that no other feasible alternative exists. If such access through critical areas is granted, exceptions or deviations from technical standards for width or other dimensions and specific construction standards to minimize impacts may be specified by the Director.
 - c. **Stormwater Conveyance.** Stormwater conveyance through a properly designed stormwater pipe when no other stormwater conveyance alternative is available. The pipe shall be located above-ground and be properly anchored and/or designed so that it will continue to function in the event of a slope failure or movement of the underlying materials and will not increase the risk or consequences of static or seismic slope instability or result in increased risk of mass wasting activity. *[New. This list can (and should) be reviewed and modified if necessary, based upon County conditions and land uses]*
3. **Buffers.** The Director shall have the authority to require buffers from the edges of any landslide hazard area in accordance with the following:
- a. The size of the buffers shall be based on the findings of a qualified engineer, engineering geologist, or geologist, licensed in the state of Washington, and shall protect critical areas and minimize the risk of property damage, death, or injury resulting from landslides caused in whole or part by the activity;
 - b. The buffer shall include the uphill hydrologic contribution area and/or the area subject to the potential for mass movement, and the downhill area subject to potential deposition; and
 - c. The buffer shall include woody vegetation adequate to stabilize the soil and prevent soil movement. If the designated buffer area lacks adequate woody vegetation, the Director shall have the authority to require vegetation or other measures to improve slope stability. *[New. The CAC should discuss if these are appropriate measures to determine landslide hazard buffers in the County]*

17A.06.XXX Erosion Hazard Area Standards

- 1. **Generally.** Activities may be allowed within erosion hazard areas, provided that all responsible measures have been taken to minimize risks and other adverse effects with erosion hazards, and the amount and degree of the alteration are limited to minimum needed

to accomplish the project purpose. Prior to approving a new development activity, redevelopment activity, or other land use in or adjacent to an erosion hazard area, the Director shall determine that all of the following standards are met.

- a. The activity includes all appropriate measures to eliminate or otherwise mitigate risks to health and safety;
 - b. The activity includes best management practices to prevent, control and minimize erosion;
 - c. The activity will not increase erosion potential;
 - d. The removal and disturbance of vegetation, clearing, or grading shall be limited to the area of the approved activity;
 - e. The activity will not increase surface water discharge or sedimentation to adjacent properties beyond predevelopment conditions, as documented in a geologically hazardous area risk assessment and/or geotechnical report;
 - f. The proposed alterations will not adversely impact other critical areas; and
 - g. Structures and improvements are designed to minimize alterations to the erosive soils and slopes. *[New. The purpose is to detail the protection measures needed to protect people and property from erosion hazard areas]*
2. **Channel Migration Zones.** If County maps indicate that a potential channel migration zone hazard exists on or adjacent to a proposed development site, the applicant shall either:
- a. Locate the proposal landward of the channel migration hazard area as indicated on the map; or
 - b. Submit a channel migration zone study, prepared by a geologist, engineering geologist, or professional engineer licensed in the state of Washington with experience in analyzing channel response in the fluvial systems of the Pacific Northwest, that demonstrates the following:
 - i. The parcel on which the development is proposed is effectively protected (disconnected) from channel movement due to the existence of permanent levees that are actively maintained by public agencies or infrastructure such as roads and bridges constructed and maintained by public agencies (not all roads and levees will be considered disconnection points); or
 - ii. The proposed development site has minimal risk of channel migration during the next one hundred (100) years as indicated by the existing channel type, land cover (and low likelihood of future alterations in land cover); surficial geology, low soil erosion potential; lack of evidence of likely avulsion pathways (including areas upstream of, but proximate to, the site); low inundation frequency(ies). The assessment shall include a review of available data regarding historical channel locations at the site; identification of the site within a broader geomorphic reach of the river system, and the general characteristics of that reach; description of existing channel type, existing channel alterations and likelihood of future alterations with changes in land cover; surficial geology, soils and erosion potential; and geotechnical setbacks relating to erosion at the toe of adjacent slope(s). The approach to assessing local migration shall be generally equivalent to the methods detailed in "A Framework for Delineating Channel Migration Zones" (Ecology Publication # 03-06-027), or similar method approved or sanctioned by Ecology. *[This language is similar to what is stated in the Draft SMP. The CAC should discuss whether these reporting requirements are appropriate]*
3. **Permitted Activities in Channel Migration Zones.** The following activities shall be allowed as specified:
- a. **Surface Water Discharge.** Discharge of surface water, provided there are no other alternatives for discharge. The pipe shall be located on the surface of the ground and be properly anchored so that it will continue to function under erosion conditions and not create or contribute to adverse effects on downstream critical areas.

- b. **Utility Lines.** Utility lines, when no feasible location is available. The line shall be located above ground and properly anchored and/or designed so that it will not preclude or interfere with channel migration.
 - c. **Public Roads, Bridges, and Trails.** Public roads, bridges, and trails when no feasible alternative alignment is available. Facilities shall be designed such that the roadway prism and/or bridge structure will not be susceptible to damage from active erosion.
 - d. **Stream Bank Stabilization.** Stream bank stabilization may be permitted subject to all of the standards listed in 17A.04.XXX. *[New. This list can (and should) be reviewed and modified if necessary, based upon County conditions and land uses]*
4. **Buffers.** Based upon the results of the channel migration zone assessment, the Director may prohibit or limit use or development within a channel migration zone and/or require a buffer of undisturbed natural vegetation from the edge of the channel migration zone in accordance with the following:
- a. The size of the buffer shall be based on the findings of a qualified engineer, engineering geologist, or geologist, licensed in the state of Washington, and shall protect critical areas and processes and minimize the risk of property damage, death, or injury resulting from channel migration;
 - b. The buffer shall include the uphill area subject to potential erosion, the downhill area subject to potential deposition, and any area subject to landslide as a result of erosion; and
 - c. The buffer shall include woody vegetation adequate to stabilize the soil and prevent soil movement. If the designated buffer lacks adequate woody vegetation, the Director shall have the authority to require vegetation enhancement or other measures to improve slope stability. *[New. The CAC should discuss if these are appropriate measures to determine channel migration zones buffers in the County]*

17A.06.XXX Alluvial Fan Hazard Standards

- 1. **Permitted Activities.** The following activities may be allowed in alluvial fan hazard areas when all reasonable measures have been taken to minimize risks and other adverse effects associated with alluvial fan hazards, and when the amount and degree of alteration are limited to the minimum needed to accomplish the activity:
 - a. **Roads, Utilities, Bridges, and Other Infrastructure.** Roads, utilities, bridges, and other infrastructure when located and designed to prevent adverse impacts on critical areas and avoid the need for channel dredging or diking or other maintenance activities that have the potential to substantially degrade river and stream functions.
 - b. **Residential and Commercial Developments.** Permanent residential structures and commercial developments shall be allowed in alluvial fan hazard areas only if the alluvial fan has undergone a County-approved study to assess potential hazards, determine risks, and identify mitigation measures and is deemed suitable for development. The Director shall make this determination based on a detailed assessment by a qualified engineer, engineering geologist, or geologist, licensed in the state of Washington, that identifies the risks associated with a 500-year return period debris flow or the maximum credible event that could impact the alluvial fan.
 - c. **Accessory Structures.** Accessory structures not involving human occupancy shall be allowed. *[New. This list can (and should) be reviewed and modified if necessary, based upon County conditions and land uses]*

17A.06.XXX Seismic Hazard Standards

- 1. **Permitted Activities.** Activities within seismic hazard areas shall follow the provisions of the Kittitas County-adopted version of the Uniform Building Code. Activities within seismic hazard areas shall not require the submission of a geologically hazardous area risk

assessment or geotechnical report. *[New. This regulation is very similar to how seismic hazards are addressed in the existing CAO]*

17A.06.XXX Volcanic Hazard Areas

1. **Permitted Activities.** As volcanic hazards in Kittitas County are limited to ash deposition, activities within volcanic hazard areas shall not require the submission of a geologically hazardous area risk assessment or geotechnical report. *[New. This regulation is very similar to how seismic hazards are addressed in the existing CAO]*

17A.06.XXX Mine Hazard Areas

1. **Alteration.** There are no additional protection standards for mine hazard areas; the standards of KCC Section 17A.06.XXX shall apply. *[New]*

17A.06.XXX Reporting—Additional Requirements for Erosion, Mine, and Landslide Hazard Areas

1. **When Required.** If a proposed activity is located within or adjacent to a known or suspected landslide, mine, alluvial fan, or erosion hazard, the applicant shall submit a Geologically Hazardous Area Risk Assessment prepared by a qualified professional engineer or engineering geologist that meets the requirements of 17A.06.XXX. No further analysis shall be required if the Geologically Hazardous Area Risk Assessment concludes that the activity is not at risk from potential geologic hazards, and that there is no geologic hazard present on or adjacent to the site. If the Geologically Hazardous Area Risk Assessment and/or the Director concludes that a geologically hazardous area is located on or adjacent to the activity and/or the activity is at risk from potential geologic hazards, the applicant shall submit a Geotechnical Report consistent with the provisions KCC 17A.02.XXX. *[Source: Final Draft SMP. The proposed reporting approach is '2-tiered', whereas if the risk assessment shows the presence of a site, a more in-depth study is required. A 2-tiered system is not mandatory, but maybe offer cost savings to applicants in some situations. The CAC should comment on this system]*
2. **Geologically Hazardous Area Risk Assessment Contents.** When required by this Chapter, geologically hazardous area risk assessments shall include the general critical area report requirements of KCC 17A.02.XXX in addition to the following:
 - a. A description of the geology of the site and the proposed use or development;
 - b. An assessment of the potential impact the project may have on the geologic hazard;
 - c. An assessment of what potential impact the geologic hazard may have on the project;
 - d. Appropriate mitigation measures, if any;
 - e. A conclusion as to whether further analysis is necessary; and
 - f. The signature and stamp of the engineer, engineering geologist, or geologist that prepared the assessment. *[Source: Final Draft SMP. These report requirements may be revised, if necessary]*
3. **Geotechnical Report Contents.** When required by KCC 17A.06.XXX, geotechnical reports shall include the general critical area report requirements of KCC 17A.02.XXX in addition to the following:
 - a. A detailed description of the geology and soil conditions of the site;
 - b. Evaluation of the geologic conditions giving rise to the geologic hazard;
 - c. An evaluation of the safety of the proposed project;
 - d. Conclusion and recommendations regarding the effect of geologic conditions on the proposed use or development;
 - e. Conclusions and recommendations on the suitability of the site to be developed;
 - f. A statement regarding the risk of damage from the project, both on- and off-site; and whether or not the project will materially increase the risk of occurrence of the hazard;

- g. Recommendations concerning drainage practices, vegetation retention and other mitigation and monitoring measures which may be needed to ensure slope stability;
 - h. Recommended erosion and sediment control measures;
 - i. A bibliography of scientific citations;
 - j. Any other specific measures which must be incorporated into the design and operational plan of the project to eliminate or reduce the risk of damage due to the hazard. This shall include a recommendation on the required buffer or setback distance that must be maintained between the proposed action and the hazard to ensure the safety of the use or development;
 - k. The signature and stamp of the engineer, engineering geologist, or geologist that prepared the assessment. *[Source: BAS report. These report requirements may be revised, if necessary]*
4. **Channel Migration Zone Study Contents.** When required by this Chapter, channel migration zone studies shall include the general critical area report requirements of KCC 17A.02.XXX and shall demonstrate the following:
- a. The parcel on which the activity is proposed is effectively protected (disconnected) from channel movement due to the existence of permanent levees that are actively maintained by public agencies or infrastructure such as roads and bridges constructed and maintained by public agencies (not all roads and levees will be considered disconnection points): or
 - b. The proposed activity site has minimal risk of channel migration during the next one hundred (100) years as indicated by the existing channel type, land cover (and low likelihood of future alterations in land cover), surficial geology, low soil erosion potential, lack of evidence of likely avulsion pathways (including areas upstream of, but proximate to, the site), and/or low inundation frequency(ies). The assessment shall include a review of available data regarding historical channel locations at the site; identification of the site within a broader geomorphic reach of the river system and the general characteristics of that reach; description of existing channel type, existing channel alteration and likelihood of future alterations with changes in land cover; surficial geology, soils and erosion potential; and geotechnical setbacks relating to erosion at the toe of adjacent slope(s). The approach to assessing location shall be generally equivalent to the methods detailed in "A framework for Delineating Channel Migration Zones" (Ecology Publication # 03-06-027), or similar method approved or sanctioned by Ecology. *[Source: BAS report.]*

Chapter 17A.07 WETLANDS

Sections:

17A.07.XXX	Purpose of Chapter
17A.07.XXX	Designation, Mapping, Delineation, and Categorization
17A.07.XXX	Buffers
17A.07.XXX	General Protection Standards
17A.07.XXX	Permitted Activities
17A.07.XXX	Reporting—Additional Requirements for Wetlands
17A.07.XXX	Mitigation Requirements

17A.07.XXX Purpose of Chapter

The purpose of this Chapter is to maintain the biological and physical functions and values of wetlands with respect to groundwater recharge and discharge, water quality, stormwater and floodwater retention, storage and conveyance, fish and wildlife habitat, recreation, and education.
[NEW]

17A.07.XXX Designation, Mapping, Delineation, and Categorization

1. **Designation.** Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs, ponds, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands. [RCW 36.70A.175]
2. **Mapping.** The approximate location and extent of wetlands are shown on maps maintained by the County. These maps are useful as a guide for project applicants and/or property owners but do not provide a conclusive or definitive indication of wetland presence or extent. Other wetlands may exist that do not appear on the maps, and some wetlands that appear on the maps may not meet all of the wetland designation criteria. The County shall update the maps periodically as new wetland areas are identified and as new wetland information becomes available.
3. **Delineation.** The County may require the applicant to identify the location or presence of any wetlands within three hundred (300) feet of a proposed activity. Wetlands shall be identified and delineated by a qualified wetland professional in accordance with the approved federal wetland delineation manual and applicable regional supplements. This professional shall field stake, flag or otherwise mark the wetland boundary to aid the County in reviewing the development proposal. The County may require the on-site wetland boundary to be surveyed by a professional land surveyor. Wetlands that occur outside of or extend beyond the boundaries of the development site, onto adjoining properties, do not need to be flagged or formally delineated but their general location must be disclosed in order to assess wetland buffer impacts. [RCW 36.70A.175]
4. **Categorization.** Wetlands shall be categorized by a qualified wetland professional in accordance with the current version of the Washington State Wetland Rating System for Eastern Washington and the appropriate rating forms approved by the Washington State Department of Ecology. These categories are generally defined as follows:

- a. Category I wetlands: Category I wetlands are those that represent a unique or rare wetland type, are more sensitive to disturbance than most wetlands, are relatively undisturbed and contain ecological attributes that are impossible or too difficult to replace within a human lifetime, and provide a high level of functions. The following types of wetlands are Category I:
 - i. Alkali wetlands;
 - ii. Wetlands that are identified by scientists of the Washington State Department of Natural Resources Natural Heritage Program as high quality, relatively undisturbed wetlands, or wetlands that support state threatened or endangered plant species;
 - iii. Bogs;
 - iv. Mature and old-growth forested wetlands;
 - v. Forest wetlands with stands of Aspen;
 - vi. Wetland scoring seventy (70) points or more (out of one hundred (100)) in the Eastern Washington Wetland Rating System.
- b. Category II wetlands: Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions. These wetlands occur more commonly than Category I wetlands, but still need a relatively high level of protection. Category II wetlands include:
 - i. Forested wetlands in the floodplains of rivers;
 - ii. Mature and old-growth forested wetlands with native fast growing trees;
 - iii. Vernal pools;
 - iv. Wetlands scoring between fifty-one to sixty-nine (51-69) points (out of one hundred (100)) in the Eastern Washington Wetland Rating System.
- c. Category III wetlands are often smaller, less diverse and/or more isolated from other natural resources in the landscape than Category II wetlands. Category III wetlands include:
 - i. Vernal pools that are isolated; and
 - ii. Wetlands scoring between thirty to fifty (30-50) points (out of one hundred (100)) in the Eastern Washington Wetland Rating System.
- d. Category IV wetlands have the lowest levels of functions, scoring less than thirty (30) points in the Eastern Washington Wetland Rating System, and are often heavily disturbed. These are wetlands that should be able to be replaced, and in some cases improved. These wetlands may provide some important functions, and also need to be protected. *[Source: BAS Report]*

17A.07.XXX Buffers

1. **Purpose.** Buffers shall be established and maintained to protect regulated wetlands. *[Source: Commerce's sample code]*
2. **Measurement.** Wetland buffers shall be measured horizontally in all directions from the outer edge of wetland boundary as established in the field. *[Source: Commerce's sample code]*
3. **Buffer Condition.** Wetland buffers shall be maintained in a predominantly well-vegetated and undisturbed condition to ensure that they perform their intended function of protecting the wetland. *[Source: BAS report]*
4. **Standard Buffer Widths.** 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 Table 17A.07.XXX. *[Source: BAS report]*

Table 17A.07.XXX: Standard Buffer Widths

Wetland Category	Low to Moderate Intensity Activities ^{1,2,3}	High Intensity Activities ^{1,2,3}

Wetland Category	Low to Moderate Intensity Activities ^{1,2,3}	High Intensity Activities ^{1,2,3}
Category I	150 feet	250 feet
Category II	100 feet	200 feet
Category III	75 feet	150 feet
Category IV	50 feet	50 feet

¹ For the purposes of this table, high intensity activities 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, and like uses), and hobby farms. Low to moderate intensity activities shall consist of activities that do not meet the above description of high intensity activities. *[Source: Final Draft SMP; Ecology wetland guidance]*

² Interrupted buffers: When a wetland buffer contains an existing legally established public or private road, the buffer shall not be construed as extending across the road. *[New. This regulation recognizes that buffers must be continuous in order to effectively protect wetlands. This language is common in CAOs].*

³ Multiple buffers: In the event that buffers for wetlands or other critical area are contiguous or overlapping, the landward-most edge of all such buffers shall apply. *[This language is common in CAOs]*

5. **Increased Buffers.** The Director shall increase the wetland buffers widths where the standard buffer is inadequate to prevent significant adverse environmental impacts or address hazards associated with the site or the proposed development activity. The Director may increase the buffer up to a maximum of two times the standard width. When determining how much to increase the standard buffer, the Director shall consider the following conditions:
 - a. Whether the wetland provides habitat for state priority or federally listed endangered, threatened, or sensitive species for which a habitat management plan indicates a larger buffer is necessary to protect habitat values for such species; or
 - b. Whether the land adjacent to the wetland is susceptible to severe erosion, and erosion control best management practices will not effectively prevent adverse wetland impacts. *[Source: BAS report]*
6. **Buffer Reduction.** The Director may allow reduction of the standard buffer widths when necessary to accommodate a single family residence or residential development of four (4) lots or less. The buffer reduction shall be allowed only in those limited instances when adherence to the standard buffer is infeasible or presents a substantial hardship because of site conditions, lot configuration or other circumstances. In such cases, the minimum width of the reduced buffer shall be at least seventy-five percent (75%) of the standard buffer width. Proposals for buffer reduction may be allowed with an approved critical areas report that demonstrates all of the following:
 - a. The buffer has not been averaged or reduced by any prior actions;
 - b. The existing buffer is predominantly un-vegetated, composed of nuisance species, or is in an otherwise highly disturbed condition. If the buffer does not meet these requirements, the site may be eligible for buffer averaging as described below in KCC 17A.07.XXX;

- c. The reduced portion of the buffer cannot exceed forty percent (40%) of the buffer length on the development property (in other words, in a one hundred (100) foot long segment of buffer, the reduced buffer could be up to forty (40) feet long);
 - d. The reduced buffer area is planted and enhanced with species native to central Washington; and
 - e. A mitigation plan is developed and implemented, per the requirements of Section 17A.01.XXX. *[Source: Final Draft SMP]*
7. **Buffer Averaging.** The Director may allow averaging of the standard buffer widths in accordance with an approved critical area report on a case-by-case basis, when necessary to accommodate a single family residential development or residential development of four (4) lots or less. With buffer averaging, the buffer width is reduced in one location and increased in another location to maintain the same overall buffer area. In such cases, the minimum width of the buffer at any given point shall be at least seventy-five percent (75%) of the standard width, or twenty-five (25) feet, whichever is greater. Proposals for buffer averaging shall meet all of the following:
- a. The wetland buffer has not been averaged or reduced by any prior actions;
 - b. No feasible site design could be accomplished without buffer averaging;
 - c. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;
 - d. The averaging will not have a significant adverse impact on wetland functions and values; and
 - e. The area that is added to the buffer to offset the reduction is well-vegetated. The Director may require vegetation enhancement if needed to ensure this criterion is met. *[Source: Final Draft SMP]*
8. **Mitigation for Buffer Averaging or Reduction.** Prior to approving a request for wetland buffer averaging or reduction, the Director shall ensure the development is designed to separate and screen the wetland from impacts such as noise, glare, vegetation trampling, intrusion, etc. The site design shall consider the varying degrees of impacts of different land uses. For example, parking lots, store entrances, and roads generally have higher noise and glare impacts than the rear of a store. Site screening should take advantage of natural topography or existing vegetation, wherever possible. Where natural screening is not available, berms, landscaping, and structural screens should be implemented as may be required by the Director (e.g., orient buildings to screen parking lots and store entrances from critical areas). *[Source: Final Draft SMP]*
9. **Allowed Buffer Uses.** The Director may allow the following activities 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:
- a. Conservation or restoration activities aimed at protecting or enhancing the soil, water, vegetation, or wildlife.
 - b. The following passive recreation facilities designed in accordance with an approved critical area report:
 - i. 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
 - ii. Wildlife viewing structures less than five hundred (500) square feet in size.
 - c. 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 Category III or IV wetlands in accordance with an approved critical area report provided that:

- i. No other location is feasible;
- ii. The facility is designed to meet or exceed the standards set forth in the current version of the Stormwater Manual for Eastern Washington; and
- iii. The location of such facility will not degrade the functions or values of the wetland. *[Source: Commerce's sample code]*

17A.07.XXX General Protection Standards

- 1. **Alterations.** New development shall be located outside of wetlands and their buffers, unless this Title specifically allows the development to occur in the wetland or buffer. A wetland or buffer may not be altered if the proposed alteration will result in a net loss of wetland functions and values. Developments shall be designed to avoid and minimize wetland and buffer impacts to the maximum extent practicable and to offset unavoidable impacts through compensatory mitigation as required in 17A.07.XXX *[Source: Commerce's sample code]*

17A.07.XXX Activities Permitted without a Critical Areas Report

The following activities are permitted in wetlands and/or buffers and do not require submission of a critical areas report, provided they are designed to avoid and minimize wetland and buffer impacts to the maximum extent practicable:

- 1. **Conservation and Preservation Activities.** Conservation or preservation of soil, water, vegetation, fish, and other wildlife that does not entail permanently changing or altering the structure or functions of the existing wetland.
- 2. **Harvesting of Wild Crops.** The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.
- 3. **Wetland Enhancement.** Enhancement of a wetland through the removal of non-native invasive species, provided that the weed removal does not require soil excavation or grading and provided that weed material is removed from the site and disposed of at an approved location. Bare areas that remain after weed removal shall be re-vegetated with native shrubs, trees and herbs/forbs. *[Source: Commerce's sample code. This list can (and should) be modified based upon County conditions—provided the activities would not result in a loss of wetland functions and values]*

17A.07.XXX Reporting—Additional Requirements for Wetlands

- 1. **When Required.** If a proposed activity is located within or adjacent to a known or suspected wetland, the Director shall require the applicant to submit a wetland critical areas report prepared by a qualified professional that includes the information listed in this Section. The requirement to provide a wetland critical areas report may be waived if the Director determines that there are no potential direct and/or indirect impacts on wetlands or their buffers that would result from the proposed activity. *[New. The specific requirements for when a report is required could potentially be revised].*
- 2. **Contents.** When required by this Title, wetland critical areas reports shall include the general critical area report requirements of KCC 17A.02.XXX in addition to the following:
 - a. Map showing the location of all wetlands and required buffers within three hundred (300) feet of the proposed activity;
 - b. An analysis of the onsite wetland(s) include the following site- and proposal-related information:
 - i. Documentation of any fieldwork performed on the site, including, but not limited to, field delineation data sheets for delineations and wetland rating forms;
 - ii. Wetland acreage;
 - iii. Wetland category;

- iv. A discussion of the water sources supplying the wetland and documentation of hydrologic regime (locations of inlet and outlet features, water depths throughout the wetland, evidence of recharge or discharge);
- v. A discussion of the functions of existing wetlands, including vegetative, faunal, and hydrologic conditions; and
- vi. A description of the methodologies used to conduct the wetland delineations;
- c. A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing wetlands;
- d. A detailed discussion of the direct and/or indirect potential impacts on the wetland by the project; and
- e. The general mitigation plan requirements of Section 17A.02.XXX as well as the wetland mitigation plan requirements of Section 17A.07.XXX, if the activity will result in unavoidable impacts to wetlands or their buffers. *[These are generally reporting requirements that are found in most CAOs. These report requirements may be revised, if necessary]*

17A.07.XXX Mitigation Requirements

1. **Generally.** Compensatory mitigation is required for all unavoidable alterations to wetland or their buffers, except for buffer averaging when done in accordance with KCC 17A.07.XXX. Compensatory mitigation actions shall replace functions affected by the alteration and shall provide equal or greater functions compared to the impacted wetland. *[Source: BAS report]*
2. **Buffer for Wetland Mitigation Sites.** Any wetland area that is created, restored, or enhanced as compensation for approved alterations shall be the same as the buffer required for the category of the created, restored, or enhanced wetland. *[Source: Commerce's sample code]*
3. **Mitigation Timing.** Mitigation projects shall be completed prior to activities that will disturb wetlands. In all other cases, mitigation shall be completed immediately following disturbance and prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife, and flora. *[Source: Final Draft SMP]*
4. **Delay in Mitigation.** The Director may authorize a one-time temporary delay, up to one hundred eighty (180) days, in completing minor construction and landscaping when environmental conditions could produce a high probability of failure or significant construction difficulties. The delay shall not create or perpetuate hazardous conditions or environmental damage or degradation, and the delay shall not be injurious to the health, safety, and general welfare of the public. The request for the temporary delay must include a written justification that documents the environmental constraints which preclude implementation of the mitigation plan. The justification must be verified and approved by the County and include a financial guarantee. *[Source: Final Draft SMP]*
5. **Preference of Mitigation Actions.** Compensatory wetland mitigation shall occur in the following order of preference:
 - a. Restoring and/or rehabilitating previously filled or altered wetlands to their original or near-original condition.
 - b. Creating wetlands on disturbed upland sites. This should only be attempted when there is a consistent source of hydrology and it can be shown that the surface and subsurface hydrologic regime is conducive to the wetland community that is being designed.
 - c. Enhancing significantly degraded wetlands in combination with restoration or creation. *[Source: BAS report]*
6. **Replacement Ratios for Wetland Impacts.** Ratios for compensatory mitigation shall be as specified in Table KCC 17.07.XXX. The first number specifies the acreage of replacement wetlands, and the second specifies the acreage of wetlands altered. Compensatory mitigation shall restore, rehabilitate, create, or enhance equivalent or greater wetland

functions. The ratios shall apply to mitigation that is in-kind, is on-site, is the same category, is timed prior to or concurrent with alteration, and has a high probability of success. The Director may increase these ratios for remedial mitigation actions resulting from unauthorized wetland alterations, depending on the nature and extent of the alteration. These ratios do not apply to the use of credits from a certified wetland mitigation bank or in-lieu fee program. When credits from a certified bank or in-lieu fee program are used, replacement ratios should be consistent with the requirements of the bank's/program's certification. [Source: BAS report]

Table 17A.07.XXX: Wetland Mitigation Ratios

Category and Type of Impacted Wetland	Restoration or Creation^{1,2}	Rehabilitation^{1,2}	Enhancement Only^{1,3}
Category I, forested	6:1	12:1	24:1
Category I, non-forested	4:1	8:1	16:1
Category II, forested	4:1	8:1	16:1
Category II, vernal pool ⁴	2:1	4:1	Case-by-case
All other Category II	3:1	6:1	12:1
All Category III	2:1	4:1	8:1
All Category IV	1.5:1	3:1	6:1

¹ Natural heritage sites, alkali wetlands, and bogs are considered irreplaceable wetlands because they perform special functions that cannot be replaced through compensatory mitigation. Impact to such wetlands would therefore result in a net loss of some functions no matter what kind of mitigation is provided.

² Provides gains in a whole suite of functions both at the site and subbasin scale. Rehabilitation actions often focus on restoring environmental processes that have been disturbed or altered by previous ongoing human activity.

³ Actions which provide gains in only a few functions. Enhancement action often focuses on structural or superficial improvements to a site and generally does not address larger scale environmental processes.

⁴ Compensatory mitigation for vernal pool impacts must be seasonally ponded wetland area(s).

- 7. Increased Replacement Ratios.** The Director shall increase the wetland mitigation ratios stated in Table 17A.07.XXX under the following circumstances:
- Uncertainty exists as to the probable success of the proposed restoration or creation;
 - A significant period of time will elapse between impact and replication of wetland functions;
 - Proposed mitigation will result in a lower category wetland or reduced functions relative to the wetland being impacts; or

- d. The impact was an unauthorized impact.
8. **Alternative Mitigation Ratios.** The Director may approve different mitigation ratios when the applicant proposes a combination of wetland creation, restoration, rehabilitation, and/or enhancement, provided that federal and state resource agencies approve the mitigation plan and the plan achieves no net loss of wetland functions and values. *[Source: Final Draft SMP]*
9. **Mitigation Ratios for Wetland Buffer Impacts.** To mitigate impacts to functions and values of wetland buffers, a minimum buffer ratio of 1:1 (alteration area:mitigation area) is required. This ratio assumes that creation/restoration of a wetland buffer with appropriate native vegetation is sufficient to compensate for the wetland buffer functions and values affected by alteration of an existing wetland buffer. If enhancement of an existing wetland buffer is proposed as mitigation, a higher mitigation ratio may be required. For any proposed wetland buffer activities, the applicant must show that the functions and values of the altered wetland buffer will be fully replaced by the proposed mitigation. The Director may increase the buffer mitigation ratios under the following circumstances:
 - a. The replacement ratio needed to recover the lost functions and values of buffer area is greater than 1:1 based upon the existing type of vegetative cover of either the impact site or the proposed mitigation site.
 - b. Uncertainty exists as to the probable success of the proposed restoration or creation;
 - c. A significant period of time will elapse between impact and replication of wetland functions;
 - d. The impact was an unauthorized impact. *[Source: Final Draft SMP]*
10. **Mitigation Plans.** Compensatory wetland mitigation plan shall be consistent with “Guidance on Wetland Mitigation in Washington State Part 2: Guidelines for Developing Wetland Mitigation Plan and Proposals” (Ecology Publication # 04-06-013B), or as revised. Mitigation plans shall include the general mitigation plan requirements in Section 17A.01.XXX, as well as the following information:
 - a. Existing and proposed wetland acreage;
 - b. Vegetative and faunal conditions;
 - c. Surface and subsurface hydrologic conditions including an analysis of existing and future hydrologic regime and proposed hydrologic regime for enhanced, created, or restored mitigation areas;
 - d. Relationship within watershed and to existing waterbodies;
 - e. Soils and substrate conditions, topographic elevations;
 - f. Existing and proposed adjacent site conditions;
 - g. Required wetland buffers (including any buffer reduction or averaging and mitigation proposed to enhance buffers);
 - h. Property ownership;
 - i. A discussion of ongoing management practices that will protect wetlands after the project site has been developed, including proposed monitoring and maintenance programs;
 - j. A bond estimate for the installation (including site preparation, plant materials and installation, fertilizers, mulch) and the proposed monitoring and maintenance work for the required number of years, pursuant to KCC 17A.01.XXX. *[Source: BAS Report/Commerce’s sample code]*