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2017

# WWC 16.16 Critical Areas Regulations



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Services

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## 2 Editor's Notes:

- 3 1. All proposed changes are shown in ~~strikeout~~/underline, except for formatting changes. Format-
- 4 ting changes have all been accepted so as to make reading easier.
- 5 2. Double ~~strikeout~~/underline indicates that original text was moved. However, please note that
- 6 such marking is an automatic function of MS Word, and it doesn't always mark it as such (seems
- 7 hit or miss). Therefore, comments have also been inserted to indicate a move.
- 8 3. The side comments explain why changes are proposed.
- 9 4. The editor has tried to log who's proposed the change:
- 10 a. "Co/C" refers to the County Council
- 11 b. "P/C" refers to the Planning Commission.
- 12 c. "CACAC" or "CAC" refers to the Citizens' Advisory Committee.
- 13 d. "CATAC" or "TAC" refers to the Technical Advisory Committee.
- 14 e. "CES" or "CStrong" refers to the Project Manager/editor, Cliff Strong.
- 15 f. "NRS" refers to Natural Resources Staff
- 16 g. "WCD" refers to the Whatcom Conservation District.
- 17 h. Others are from various individuals.
- 18 5. Note that some of the paragraph numbering/lettering might seem off. However, the numbering
- 19 is an automatic Word function and when used together with Review Mode it sometimes puts
- 20 the paragraph's number/letter *after* the paragraph. It will look right in the final version.

21

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1 **ARTICLE 1. PURPOSE AND INTENT**

2 **16.16.100 Purpose and Intent.**

3 A. The purposes of this chapter are to carry out the goals of the Whatcom County comprehensive plan  
 4 and the State of Washington Growth Management Act (Chapter [36.70A](#) RCW) and its implementing  
 5 rules by designating and classifying critical areas, and by protecting the functions and values of criti-  
 6 cal areas and the ecological processes that sustain them, while allowing for appropriate economical-  
 7 ly beneficial or productive use of land and property. Critical areas regulated under this chapter in-  
 8 clude geologically hazardous areas, frequently flooded areas, critical aquifer recharge areas, wet-  
 9 lands, and ~~fish and wildlife~~ habitat conservation areas. This chapter seeks to maintain harmonious  
 10 relationships between human activity and the natural environment.

**Commented [DOC1]:** Suggested by DOC since we only call them HCAs elsewhere.

11 B. The Growth Management Act requires the designation of critical areas and the adoption of regula-  
 12 tions for the protection of such areas by all counties and cities. The Washington Department of  
 13 Commerce has adopted minimum guidelines in WAC 365-190 detailing the process involved in es-  
 14 ablishing a program to protect critical areas. "Protection" in this context means preservation of the  
 15 functions and values of the natural environment, or to safeguard the public from hazards to health  
 16 and safety. Critical areas that must be protected include the following areas and ecosystems:

- 17 1. Wetlands;
- 18 2. Areas of critical recharging effect on aquifers used for potable water;
- 19 3. Fish and wildlife habitat conservation areas;
- 20 4. Frequently flooded areas; and
- 21 5. Geologically hazardous areas

22 ~~B-C~~ By regulating development and minimizing critical area alterations, this chapter seeks to:

- 23 1. ~~Protect the public from~~Reduce harm due to landslides, earthquakes, erosion, volcanic events,  
 24 flooding, and other natural hazards.
- 25 2. Minimize unnecessary maintenance of public facilities, and costs associated with property dam-  
 26 age, emergency rescue relief operations, and environmental degradation.
- 27 3. ~~Protect against adverse impacts to water quality and quantity resources~~Ensure there are no ad-  
 28 ~~verse impacts to the quality and quantity of water resources.~~
- 29 4. Alert appraisers, assessors, real estate agents, owners, potential buyers or lessees, and other  
 30 members of the public to natural conditions that pose a hazard or otherwise limit development.
- 31 5. Protect wetlands, floodplains, critical aquifer recharge areas, and habitat conservation areas by  
 32 applying the best available science to ensure no net loss of ecological functions and values.
- 33 6. Protect species listed as threatened or endangered and their habitats.
- 34 7. Protect unique, fragile, and/or valuable elements of the environment, including ground and sur-  
 35 face waters, wetlands, anadromous fish species, shellfish, and other fish and wildlife and their  
 36 habitats.
- 37 8. Provide County officials with information to approve, condition, or deny project proposals.
- 38 9. Protect property rights, while allowing for economic development, including agriculture, and al-  
 39 lowing for the development and maintenance of adequate and appropriate public services and  
 40 essential public facilities.
- 41 10. Prevent adverse and cumulative environmental impacts to critical areas and mitigate unavoida-  
 42 ble impacts.
- 43 11. Coordinate Whatcom County's critical areas protection activities and programs with those of  
 44 other jurisdictions.
- 45 12. Coordinate environmental reviews and permitting of proposals with other departments and  
 46 agencies to avoid duplication and delay.

- 1 13. Allow for reasonable use of property in accordance with the provisions of WCC [16.16.270](#).
- 2 14. Establish critical areas protection standards and procedures that are consistent with state and
- 3 federal regulations pertaining to critical areas.
- 4 ~~C.D.~~ The goals, policies, and purposes set forth in this chapter serve as a basis for exercise of the
- 5 County’s substantive authority under the State Environmental Policy Act (SEPA) and the County’s
- 6 SEPA rules.
- 7 ~~D.E.~~ The County’s enactment or enforcement of this chapter shall not be construed for the benefit of any
- 8 individual person or group of persons other than the general public.
- 9 ~~E.F.~~ Nothing in this chapter is intended to preclude or discourage beneficial actions that protect, restore,
- 10 and/or maintain critical areas or minimize risks associated with critical areas.
- 11 ~~F.G.~~ Consistent with Whatcom County’s high standard of staff conduct, County staff observe all applica-
- 12 ble federal and Washington laws regarding entry onto privately owned property.

## ARTICLE 2. ADMINISTRATIVE PROVISIONS

### 16.16.200 Authority.

This chapter is adopted under the authority of Chapters [36.70](#), [which empowers a county to enact a critical area ordinance and provide for its administration, enforcement and amendment](#), and [36.70A](#) RCW and Article 11 of the Washington State Constitution.

### 16.16.205 Authorizations Required.

~~A.~~ No action shall be taken by any person, company, agency, governmental body (including Whatcom County), applicant, owner, or owner's agent, which results in any alteration of a critical area or its setback or buffer without prior authorization by submitting an application to the Technical Administrator and obtaining either the required permit or an approval of a notice of activity, as specified herein.

~~A.B.~~ Prior to issuing a permit, the County shall determine if the proposed activity or use is permitted pursuant to this chapter. No land use development permit, construction permit, or land division approval required by County ordinance shall be granted until the County decision-maker has determined that the applicant has complied with the applicable purposes, requirements, objectives, and goals provisions of this chapter including the mitigation standards set forth in WCC [16.16.260](#).

~~B.C.~~ Project permits Authorizations required under this chapter overlay other permit and approval requirements of the Whatcom County Code. Critical areas review pursuant to this chapter shall be conducted as part of the underlying permit or approval. Any proposed critical area alteration that does not require other County project permits or approvals, such as variances and reasonable use exceptions, must comply with the substantive and procedural requirements of this chapter and the procedural requirements of Chapter [2.33](#) WCC.

~~C.D.~~ The requirements of this chapter shall apply concurrently with review conducted under the State Environmental Policy Act (SEPA) (Chapter [43.21C](#) RCW), as locally adopted (Chapter 16.08 WCC). Any conditions required pursuant to this chapter shall be coordinated with the SEPA review and threshold determination.

~~D.E.~~ Areas characterized by a particular critical area may also be subject to other regulations established by this chapter due to the overlap or multiple functions of some critical areas. When one critical area adjoins or overlaps another, the more restrictive standards shall apply.

### 16.16.210 Applicability and Severability.

This chapter shall be consistently applied to any alteration or development within geographical areas of unincorporated Whatcom County that meet the definition and criteria for critical areas and critical area buffers as set forth in this chapter. No development shall be constructed, located, extended, modified, converted, or altered, or land subdivided without full compliance with this chapter. Should any section or provision of this chapter be declared invalid, such decision shall not affect the validity of this chapter as a whole.

### 16.16.215 Relationship to Other Jurisdictions.

A. Permit applicants are responsible for complying with all federal, state, tribal, and local regulations that ~~may may~~ pertain to a proposed development. Compliance with the provisions of this chapter does not necessarily constitute compliance with other regulations and permit requirements; ~~provided, that the following shall apply:~~

B. In cases where other agencies have jurisdiction over critical areas and the technical administrator determines that the permit conditions imposed by such agencies [are no less protective and](#) satisfy

- 1 the requirements of this chapter, those permit conditions may be substituted as the conditions of  
 2 approval for the requirements of this chapter. Such agencies may include, but are not limited to, the  
 3 Lummi Nation; the Nooksack Tribe; the United States Army Corps of Engineers; the United States  
 4 Environmental Protection Agency; the United States Fish and Wildlife Service; the National Marine  
 5 Fisheries Service or NOAA Fisheries; and the Washington State Departments of Ecology, Natural Re-  
 6 sources, and Fish and Wildlife.
- 7 C. The County shall make detailed written findings required by Chapter WCC 2.33 and WCC 16.16.250  
 8 when adopting conditions of another jurisdiction’s permit. Such requirements shall be a condition of  
 9 critical area approval and enforceable by the County. In the event that there is a conflict between  
 10 permit requirements and the standards of this chapter, the more restrictive standards shall apply.
- 11 D. The County shall notify the applicant in writing when adopting other agencies’ conditions pursuant  
 12 to this section provision applied.

Commented [CES2]: To clarify.

13 **16.16.220 Identification and Mapping of Critical Areas.**

- 14 A. The County has identified critical areas and areas where the conditions under which critical areas  
 15 typically occur and/or have the potential to occur. The approximate location and extent of critical  
 16 areas within the County’s jurisdiction are shown on maps, which shall be available at the planning  
 17 and development services department and online for public inspection.
- 18 B. Property owners, the technical administrator, and/or members of the public may use these maps as  
 19 a general guide, but the maps do not provide a comprehensive accounting of areas subject to this  
 20 chapter nor do they provide a definitive critical areas designation. Critical area locations and bound-  
 21 aries shown on the County’s maps are approximate and do not include buffers that may be associ-  
 22 ated with critical areas, and some critical areas may not be shown on the maps at all. It is also possible  
 23 that some maps showing critical areas in certain areas may not be accurate.
- 24 C. Field investigation, analysis by a qualified professional, and/or consideration of other sources of  
 25 credible scientific information may be required to confirm the presence or absence of a critical area  
 26 and its boundaries and buffers. The County shall update the maps on a regular and consistent basis  
 27 as new information becomes available.
- 28 ↔D. Planning and Development Services has the authority and shall to update critical areas the maps  
 29 and shall do so as new critical areas are identified and as new information becomes available.

Commented [CES3]: Just clarifying what the maps may or may not show so as to lessen confusion.

Commented [CES4]: Delegates authority for PDS to update maps based when new information is obtained.

30 **16.16.225 Regulated Activities.**

- 31 A. The following activities shall be subject to the provisions of this chapter when they occur within crit-  
 32 ical areas or their buffers or will impair the functions and values of a critical area:
- 33 1. Clearing, grading, dumping, excavating, discharging, or filling with any material. This includes  
 34 creating impervious surfaces.
  - 35 2. Constructing, reconstructing, demolishing or altering the size of any structure or infrastructure,  
 36 subject to the provisions for a nonconforming structure pursuant to WCC 16.16.275, WCC Chap-  
 37 ter 20.83, and WCC 23.50.070.
  - 38 3. Any other activity for which a County permit is required, excluding permits for interior remodel-  
 39 ing.
- 40 B. Alteration of critical areas and/or buffers is prohibited except when:
- 41 1. Alteration is approved pursuant to the reasonable use or variance provisions of WCC 16.16.270  
 42 and 16.16.273, respectively; or
  - 43 2. Alteration is necessary to accommodate an essential public facility or public utility where no fea-  
 44 sible alternative location will accommodate the facility and the facility is located, designed, and  
 45 constructed to minimize and, where possible, avoid critical areas disturbance to the maximum  
 46 extent feasible; or

- 3. Alteration is necessary to accommodate an approved water-~~dependent oriented~~-use and any associated development/activity and/or the development activities listed in WCC [23.90.130\(B\)\(7\)\(a\)](#) when permitted in accordance with the Whatcom County Shoreline Management Program (SMP); provided, that such development is operated, located, designed and constructed to minimize and, where possible, avoid critical areas disturbance to the maximum extent feasible; or
- 4. Alteration is part of an essential element of an activity allowed by this chapter and all feasible measures to avoid and minimize impacts have been employed. Such feasible measures shall include, but not be limited to, clustering where permitted by zoning and as appropriate to protect critical areas. The purposes of clustering shall be to minimize adverse effects of development on critical area functions and values, minimize land clearing, maintain soil stability, preserve native vegetation, provide for wildlife corridors, maintain hydrology, and mitigate risk to life and property; or
- 5. Alteration is associated with an exempt activity under WCC [16.16.230](#), or is allowed pursuant to the notification provisions of WCC [16.16.235](#), or is allowed pursuant to the specific regulatory standards for each designated critical area, as enumerated in the subsequent articles of this chapter; or
- ~~6.~~ Alteration is associated with an alternative mitigation plan or watershed-based management plan approved pursuant to WCC ~~16.16.2610(F)~~ or [16.16.262](#), respectively; or,
- ~~6.7.~~ Alteration is associated with a conservation farm plan pursuant to WCC 16.16 Article 8.

**16.16.230 Exempt Activities.**

Exemptions from permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter or any other laws or ordinances of this jurisdiction. The following activities as specified are exempt from the requirements provisions of this chapter:

- ~~A.~~ Class I, II, III, and IV special (not Class IV general) forest practices conducted in accordance with the applicable standards of the Washington State Forest Practices ~~Act~~rules, Chapter Title 222-16 WAC, except where either of the following applies:
- ~~B.~~ The lands have been or are proposed to be converted to a use other than commercial forest product production; or
- ~~C.~~ On lands which have been platted after January 1, 1960, as provided in RCW 76.09.050 and 76.09.240.
- B. Maintenance of ~~existing~~ lawfully established vegetation, landscaping, and gardens within a regulated critical area or its buffer, including, but not limited to, cutting, mowing lawns, weeding, removal of noxious and invasive species, harvesting and replanting of garden crops, pruning and planting of noninvasive ornamental vegetation or indigenous native species to maintain the general condition and extent of such areas; provided, that native growth protection areas, ~~mitigation sites~~, or other areas protected via conservation easements or similar restrictive covenants are not covered by this exception.
- ~~D.~~ C. Maintenance activities necessary to implement approved mitigation plans.
- ~~E.~~ D. Low impact activities, when the activity does that do not cause adverse impacts, such as hiking, canoeing, viewing, nature study, photography, hunting, fishing, education, or scientific research.
- ~~F.~~ E. Activities undertaken to comply with a United States Environmental Protection Agency Superfund-related Order, or a Washington Department of Ecology Order pursuant to the Model Toxics Control Act, or a Department of Homeland Security Order that specifically preempts local regulations in the findings of the Order.

Commented [TAC5]: Clarification (Class IV general are not exempt).

Commented [TAC6]: This provision is no longer in the RCWs.

Commented [CES7]: Don't need this word; was a holdover from CAO's first adoption.

Commented [CES8]: This is the condition, the list is of examples.

- 1 F. Maintenance and/or repair of lawfully established single-family residences and appurtenant fea-  
 2 tures; provided, that the activity does not further alter, impact, or encroach upon critical areas or  
 3 buffers or further affect their functions. The maintenance activity shall not result in increased risk to  
 4 life or property. ~~The landowner may cut hazard trees within critical areas and buffers.~~  
 5 G. Fish, wildlife, and/or wetland restoration or enhancement activities not required as project mitiga-  
 6 tion; provided, that the project is approved by the U.S. Fish and Wildlife Service, the Washington  
 7 State Department of Ecology, Washington State Department Fish and Wildlife, or other appropriate  
 8 local, state, federal, or tribal jurisdiction and/or that meet the criteria of RCW 77.55.181(1) and that  
 9 are reviewed and approved according to the provisions of RCW 77.55.181.

**Commented [CES9]:** This part moved from 16.16.235. Per RCW 77.55.181(4), such projects are exempt from review.

**Commented [CES10]:** This part new and refers to the criteria for exemption under the RCW.

10 **16.16.235 Activities Allowed with Notification.**

- 11 A. The following activities as specified in subsection (B) are authorized within critical areas and buffers;  
 12 provided, that:  
 13 1. ~~The applicant provides a written notification to the technical administrator (see Appendix B of~~  
 14 ~~this chapter) on a form provided by the department.~~  
 15 2. The notification will provide a site plan (in a common scale), photos, and specific information  
 16 describing the activity and the mitigation to be implemented, if required by the Technical Ad-  
 17 ministrator, to document that the activity will not result in increased risk to public health, safety,  
 18 and welfare; that adverse impacts to critical areas are minimized; and that disturbed areas are  
 19 restored as soon as possible following the activity.  
 20 3. Notification shall be submitted to the technical administrator at least 10 full business days prior  
 21 to initiating work.  
 22 4. Upon receipt of the notification, the Technical Administrator shall issue a decision within 10  
 23 days unless additional information is required from the applicant or other review processes ne-  
 24 cessitate additional time. Additionally, the Technical Administrator may provide guidance on  
 25 best management practices for tree and vegetation protection, construction management, ero-  
 26 sion and sedimentation control, water quality protection, and use of chemical applications to be  
 27 used in the execution of the activities listed in Subsection (B).  
 28 4.5. Unless otherwise specified, notification shall be valid for one year per activity; provided, that  
 29 there is no change in the scope of the project including, but not limited to, the location and/or  
 30 extent of the activity allowed under the notification process.

**Commented [TAC11]:** Follow up: Update this form, if neces- sary.

**Commented [NRS12]:** To be consistent with submittal re- quirements

31 B. Activities allowed with notification:

- 32 5.1 Emergency construction or activity necessary for the immediate preservation of the public  
 33 health, safety, and welfare as determined by the technical administrator; provided, that:  
 34 a. An emergency is an unanticipated and imminent threat to public health, safety, or the envi-  
 35 ronment that requires immediate action within a time period too short to allow full compli-  
 36 ance with this chapter.  
 37 b. Emergency construction does not include development of new permanent protective struc-  
 38 tures where none previously existed. Where the technical administrator determines that  
 39 new protective structures are the appropriate means to address an emergency situation,  
 40 the project proponent shall either obtain any permits that would have been required absent  
 41 an emergency, pursuant to Chapter 90.58 RCW, Chapter 173-27 WAC, or this chapter, or  
 42 remove the structure upon abatement of the emergency situation.  
 43 c. Within the jurisdiction of the Whatcom County Shoreline Management Program (WCC Title  
 44 23), all emergency construction shall be consistent with the policies and procedural re-  
 45 quirements of WCC Title 23 and this chapter.  
 46 d. The applicant shall make a reasonable attempt to contact the technical administrator prior  
 47 to activity; provided, that when prior notice is not feasible, notification of the action shall be

- 1 submitted to the technical administrator as soon as the emergency is addressed and no later  
 2 than 14 days following such action.
- 3 2. Maintenance, operation, and/or repair of existing infrastructure improvements, including dikes  
 4 and drainage ditches, rights-of-way, trails, roads, fences, and utilities; provided, that the activity  
 5 does not further alter, impact, or encroach upon critical areas or buffers or further affect their  
 6 functions. The maintenance activity shall not result in increased risk to life or property. Maintenance  
 7 shall be allowed pursuant to the provisions set forth in this chapter; provided, that:
- 8 a. The applicant shall submit to the technical administrator a written description of the  
 9 maintenance activity with all of the following general information:
- 10 1. Type, timing, frequency, and sequence of maintenance activity to be conducted;  
 11 2. Type of equipment to be used (hand or mechanical);  
 12 3. Manner in which the equipment will be used; and  
 13 4. Best management practices to be used.
- 14 b. The applicant's written description shall be valid for up to five years; provided, that there is  
 15 no significant change in the type or extent of maintenance activity.
- 16 3. Select ~~vegetation~~ removal or pruning of vegetation subject to the following:
- 17 a. Vegetation removal or pruning will be done in a manner that minimizes ~~unnecessary~~ dis-  
 18 turbance and prevents adverse effects on soil stability, fish or wildlife habitat, water quality,  
 19 or water quantity.
- 20 ~~b. ; provided, that Except for lawn, pasture, ornamental vegetation, and similar introduced~~  
 21 ~~vegetation,~~ no vegetation shall be removed from a wetland, habitat conservation area,  
 22 coastal or riverine erosion hazard area, or landslide hazard area or their buffers ~~unless oth-~~  
 23 ~~erwise authorized by the Technical Administrator for safety reasons,; except for lawn, pas-~~  
 24 ~~ture, ornamental vegetation, and similar introduced vegetation, except that c~~
- 25 c. Cut vegetation shall be left within the critical area or buffer where practicable unless re-  
 26 moval is warranted due to the presence of an established disease infestation or other haz-  
 27 ard, or because of access or maintenance needs if the area is a utility or access right-of-way.
- 28 4. ~~The landowner may cut~~ felling of hazard trees within critical areas and buffers, with an approved  
 29 tree risk assessment completed by a qualified professional.
- 30 3.5 ~~Clearing, pruning, and revegetation of buffer areas, e~~ Except in landslide hazard areas and buff-  
 31 ers and riverine and coastal erosion hazard areas and buffers, the clearing, pruning, and revege-  
 32 tation of buffer areas for view purposes, provided:
- 33 a. This ~~allowed~~ activity shall not be conducted more than once every 10 years for any individu-  
 34 al residential property.
- 35 b. A window or view opening is limited to the minimum necessary for view purposes and shall  
 36 not exceed 15% percent of buffer length, unless the applicant can demonstrate to the tech-  
 37 nical administrator's satisfaction that a larger dimension is warranted because of slope or  
 38 other site considerations. Trees greater than 12 inches in diameter at breast height shall be  
 39 preserved, but may be shaped, windowed/thinned or pruned.
- 40 c. Clearing shall not take place where increased risks or adverse impacts, including cumulative  
 41 impacts, to critical area functions and values are likely to occur.
- 42 d. Low-growing native vegetation shall be retained and/or planted in the view corridor to pro-  
 43 vide habitat, stabilize the area, and achieve dense growth.
- 44 e. This provision does not apply to open space set aside in a subdivision or other approval to  
 45 which specific conditions are attached that prohibit clearing of vegetation without a written  
 46 approval or permit.
- 47 f. View areas established under this section shall be considered lawfully established and may  
 48 be maintained as provided for in subsection B(3) of this section.

Commented [NRS13]: A tree risk assessment is a submittal requirement to determine if a tree meets the definition of Hazard Tree.

Commented [TAC14]: Moved from F.

- 1 ~~4.~~ ~~The~~ installation of navigation aids and boundary markers in accordance with applicable state  
 2 and federal laws ~~or the~~  
 3 ~~5-6.~~ installation of mooring buoys in accordance with the Department of Fish and Wildlife design  
 4 guidelines and the Whatcom County Shoreline Management Program (WCC Title 23).  
 5 ~~6-7.~~ Routine site investigation work in wetlands, landslide hazard areas, and riverine and coastal ero-  
 6 sion hazard areas. This includes geotechnical soil borings, groundwater monitoring wells, perco-  
 7 lation tests, sediment sampling, and similar or related activities ~~necessary~~ required for land use  
 8 application submittals or permit compliance. Land survey and shallow soil test pits dug in con-  
 9 junction with wetland delineation studies do not require notification.
- 10 ~~B.~~ ~~Clearing, pruning, and revegetation of buffer areas, except landslide hazard areas and buffers and~~  
 11 ~~riverine and coastal erosion hazard areas and buffers, for view purposes, provided:~~
- 12 ~~1. This allowed activity shall not be conducted more than once every 10 years for any individual~~  
 13 ~~residential property.~~
  - 14 ~~2. A window or view opening is limited to the minimum necessary for view purposes and shall not~~  
 15 ~~exceed 15 percent of buffer length, unless the applicant can demonstrate to the technical ad-~~  
 16 ~~ministrator's satisfaction that a larger dimension is warranted because of slope or other site~~  
 17 ~~considerations. Trees greater than 12 inches in diameter at breast height shall be preserved, but~~  
 18 ~~may be shaped, windowed/thinned or pruned.~~
  - 19 ~~3. Clearing shall not take place where increased risks or adverse impacts, including cumulative im-~~  
 20 ~~pacts, to critical area functions and values are likely to occur.~~
  - 21 ~~4. Low growing native vegetation shall be retained and/or planted in the view corridor to provide~~  
 22 ~~habitat, stabilize the area, and achieve dense growth.~~
  - 23 ~~5. This provision does not apply to open space set aside in a subdivision or other approval to which~~  
 24 ~~specific conditions are attached that prohibit clearing of vegetation without a written approval~~  
 25 ~~or permit.~~
- 26 ~~View areas established under this section shall be considered lawfully established and may be main-~~  
 27 ~~tained as provided for in subsection B of this section.~~
- 28 ~~6. Fish, wildlife, and/or wetland restoration or enhancement activities not required as project miti-~~  
 29 ~~gation; provided, that the project is approved by the U.S. Fish and Wildlife Service, the Washing-~~  
 30 ~~ton State Department of Ecology, Washington State Department Fish and Wildlife, or other ap-~~  
 31 ~~propriate local, state, federal, or tribal jurisdiction.~~
  - 32 ~~7-8.~~ Household ~~herbicides, pesticides, and fertilizers~~ or household herbicides to address noxious  
 33 weed infestation, may be used in critical area buffers, but not in critical areas ~~, when~~ either must  
 34 be applied at times and rates specified on the label in accordance with Washington State De-  
 35 partment of Agriculture and other applicable regulations.
  - 36 ~~8-9.~~ Routine maintenance of ~~drainage channels~~ ditches on agricultural lands; provided, that all of the  
 37 following are met:
    - 38 a. The maintenance is necessary to support ongoing agricultural operations;
    - 39 b. The maintenance activity does not expand the dimensions of the drainage channel beyond  
 40 the original, lawfully established dimensions;
    - 41 c. The agricultural activities are conducted pursuant to an approved conservation farm plan  
 42 prepared pursuant to WCC 16.16.290;
    - 43 d. The farm operator obtains a hydraulic project approval (HPA), if required, from the Wash-  
 44 ington State Department of Fish and Wildlife (WDFW) prior to the maintenance activity; and
    - 45 e. The farm operator provides a copy of the HPA to the technical administrator as part of the  
 46 written notification. ~~No other written notification is needed.~~
  - 47 ~~9-10.~~ Alteration or removal of beaver-built structures two years old or less; provided, that:
    - 48 a. There is no adverse impact to wetland or river or stream functions.

Commented [CES15]: Moved to subsection 5.

Commented [CES16]: Moved to 16.16.235, since such project are exempt under RCW 77.55.181(4).

Commented [CES17]: Recommended that pesticides not be an exemption since insects are important to the food chain, and that herbicides only be allowed for eradicating invasive species, not native plants.

Commented [CES18]: This sentence is contradictory to the first.

- b. The property owner obtains an HPA from WDFW (if required) prior to the maintenance activity.
- c. The property owner provides a copy of the HPA to the technical administrator as part of the written notification.

**16.16.240 Technical Administrator and Hearing Examiner Authority.**

The technical administrator is the Whatcom County director of planning and development services or his/her designee. The hearing examiner is appointed by the County Council. The technical administrator and the County Hearing Examiner shall administer and enforce the provisions of this chapter pursuant to the following:

- A. The technical administrator shall have the primary responsibility for reviewing development proposals for compliance with this chapter and is authorized to approve, deny, or condition permits in accordance with the standards set forth herein. The technical administrator shall also have the following authority:
  - 1. Authority to convene an interdisciplinary team to assist in reviewing development proposals or to solicit review from outside experts in accordance with WCC 16.16.245.
  - 2. Authority to grant, condition, or deny reasonable use permits for single-family residential building permits residences proposed to be located outside of geologically hazardous areas within critical areas and/or their buffers
  - ~~2-3~~ Authority to grant, condition, or deny reasonable use permits for other development proposals that would affect critical area buffers, but not the critical areas themselves.
  - ~~3-4~~ Authority to serve a cease and desist order pursuant to WCC 16.16.285 upon a person undertaking activity within a critical area or buffer in violation of this chapter.
  - ~~4-5~~ Any additional responsibility and/or authority specifically provided for in the subsequent articles of this chapter.
- B. The technical administrator's authority shall transfer to another County decision-maker when another decision-maker is specified for a separate project permit. In such cases, the technical administrator shall ensure that all procedural requirements of this chapter are met and shall make a recommendation to the designated decision-maker as to how the provisions of this chapter apply to the permit action, including project permits.
- C. The Whatcom County hearing examiner is hereby vested with responsibility and authority to hear appeals and perform the following duties:
  - 1. Authority to grant or deny variances.
  - 2. Authority to grant, condition, or deny reasonable use permits for all non single family developments, except single-family building permits, affecting critical areas and for all developments in geologically hazardous areas.
  - 3. Authority to decide on appeals of administrative decisions including, but not limited to, variance ~~and~~ reasonable use permits issued by the technical administrator.
  - 4. Authority to hold public hearings pursuant to Chapters 20.84 and 20.92 WCC.
- D. In granting, revising, or extending a permit, the technical administrator, or hearing examiner, as ~~appropriate~~ applicable, may attach such conditions, modifications, or restrictions thereto regarding the location, character, and other features of the proposed development deemed necessary to assure that the development is consistent with criteria set forth in this chapter. In cases involving unusual circumstances or uncertain effects, a condition may be imposed to allow for future review or reevaluation to assure conformance with this chapter. The technical administrator and/or hearing examiner shall render a final decision in accordance with the timelines established in WCC 2.33.090 and 20.92.430, as applicable. All decisions of the technical administrator and hearing examiner may be appealed pursuant to WCC 20.84.240 and 20.92.600.

**Commented [TAC19]:** Staff can handle SFR in geohazard areas and it's less expensive for applicants. Staff said that there are times when an RU must go to the HE when they really shouldn't have to. For instance, a plat that will affect a wetland and has a geohazard on-site that is not affected, must go to the HE. Staff geologist thinks he (under the TA) can handle these.

**Commented [CES20]:** See above comment.

**Commented [NRS21]:** Redundant, as Geohazards *are* critical areas.

**Commented [CES22]:** Variances are not administratively issued by staff.

1 **16.16.245 Interdisciplinary Team.**

- 2 The technical administrator may call upon outside expertise including an interdisciplinary team if the  
 3 technical administrator determines that additional technical assistance is required to assess a critical  
 4 areas development proposal or ensure the application of best available science.  
 5 A. The interdisciplinary team shall include the applicant and/or their technical representative, local,  
 6 state, or federal agency or tribal representatives with expertise in the field, and/or independent  
 7 qualified professionals with expertise relating to the critical area issue.  
 8 B. The functions of the interdisciplinary team are to field check and verify critical area determina-  
 9 tions/boundaries and assess species/habitat presence by providing written peer review of the in-  
 10 formation included with an application, identify areas of concern in the application of best available  
 11 science, provide professional opinions and recommendations relevant to the provisions of this chap-  
 12 ter, and help focus the preparation of subsequent reports and environmental documentation on the  
 13 most relevant issues.  
 14 C. The technical administrator will coordinate this effort and seek advice from the team.  
 15 D. In lieu of convening an interdisciplinary team, the County may require third party review by a quali-  
 16 fied professional for any development proposal, mitigation plan, mitigation bank proposal, or other  
 17 project for which additional technical expertise is needed. The cost of the third party review shall be  
 18 the permit applicant's responsibility.

19 **16.16.250 Submittal Requirements and Critical Areas Review Process.**

- 20 A. All applicants ~~shall complete a prescreening~~ ~~are encouraged to contact and/or meeting~~ with the  
 21 technical administrator prior to submitting an application subject to this chapter. The purpose of  
 22 this meeting shall be to discuss the requirements for a complete application; the critical area stand-  
 23 ards and procedures; to review conceptual site plans prepared by the applicant; to discuss appropri-  
 24 ate investigative techniques and methods; and to determine reporting requirements.  
 25 B. Review and approval of a proposed development within a critical area or its buffer may be initiated  
 26 through the application for any project permit in Whatcom County. ~~If another authority does not~~  
 27 ~~require a project permit, application shall be made pursuant to Chapter 2.33 WCC.~~  
 28 C. The technical administrator shall be responsible, in a timely manner, to make one of the following  
 29 determinations regarding critical areas review:  
 30 1. Initial Determination. When County critical area maps or other sources of credible information  
 31 indicate that a site may be located, contain or abut critical areas, critical area buffers or setbacks  
 32 the technical administrator shall require technical studies in accordance with that critical area's  
 33 specific Article.  
 34 ~~1.2. Determination of Impacts. Upon receipt of a permit application,~~ 1.2. Determination of Impacts. The technical administrator  
 35 shall use best available science, including but not limited to the County's critical areas maps,  
 36 his/her field investigation results, his/her own knowledge of the site, information from appropri-  
 37 ate resource agencies, or documentation from a scientific or other credible source to deter-  
 38 mine if the project ~~is will~~ more probably than not ~~located within~~ adversely impact a critical area  
 39 or its buffer. ~~The technical administrator may request that the applicant submit a critical area~~  
 40 ~~identification form provided by the County to assist in the initial determination.~~ Identified ad-  
 41 verse impacts shall be fully mitigated in accordance with WCC 16.16.260.  
 42 2.3. Determination of Compliance. If the applicant demonstrates to the satisfaction of the Technical  
 43 Administrator that the project meets the provisions of this chapter and is not likely to adversely  
 44 affect the functions and values of critical areas or buffers or provides mitigation to reduce the  
 45 adverse impact to meet no net loss of the function and values of critical areas or its buffer, the  
 46 technical administrator shall make the determination issue written verification that the proposal  
 47 complies with this chapter. ~~Written verification shall be included in the project review record for~~

Commented [NRS23]: Reflects the current process established under the Kaizan review procedures.

Commented [CES24]: Such forms are no longer used by staff.

the underlying permit, or issued in accordance with Chapter 2.33 WCC, and no further critical areas review is required.

3. ~~Need for Additional Critical Area Assessment. If the proposed activity does not meet the criteria of subsection (C)(2) of this section and would more probably than not affect a critical area or buffer, the technical administrator shall require confirmation of the presence or absence of critical areas through site inspection by a qualified professional or other appropriate means consistent with best available science, and shall notify the applicant in writing of the need to prepare a critical areas assessment report in conformance with WCC 16.16.225.~~

4. Decision to Approve, Condition, or Deny. The technical administrator shall review all pertinent information pertaining to the proposed development and shall approve, approve with conditions, or deny the permit based on their review, and shall provide a detailed written decision. This determination shall be included in the project review record for the project permit in accordance with Chapter 2.33 WCC, including findings of fact to support the decision made. ~~Such determinations shall be provided to the applicant in writing.~~

D. The technical administrator may waive the requirement for critical areas review under this chapter when he/s/he determines that all of the following conditions are met:

- 1. The proposed development activity is located on a parcel that received approval of a previous critical areas review within the prior 5 years, site conditions have not changed, and the applicable regulations have not substantively changed, and appropriate County permits were issued;
- 2. All critical areas on the parcel have been identified and delineated and the effects of the proposed development activity have been thoroughly considered in accordance with the most current regulations in effect at the time and Best Available Science;
- 3. The activity is in compliance with all permit conditions including mitigating measures, as applicable, that were imposed as part of the prior review and there are no outstanding violations of conditions that were imposed as part of the previous review;

~~4. The prior permit has not expired;~~  
5.4. The development activity involves a use that is equally or less intensive than the development activity that was subject to the prior permit. Land use intensity shall be based on factors including development density, critical areas impacts, impervious surface, noise, glare, dust, hours of operation, and traffic.

E. ~~Upon the applicant's request, the technical administrator shall provide brief written findings of fact to support the decision made.~~ Submittal Materials:

- 1. Complete Application
- 2. A detailed site map drawn to a common scale, or survey, showing at least the following:
  - a. Vicinity Map
  - b. Topographic, hydrologic, and vegetative features.
  - c. The location and description of known wildlife and habitat features and all known critical areas.
  - d. Proposed development activity with dimensions.
- 6. ~~Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, water bodies, etc. Structures shall be dimensioned.~~

3. Elements of a critical area assessment are encouraged to be submitted together for timely review. However, the Technical Administrator may allow the various components to be submitted independently at different phases of a project if s/he determines piecemeal review will benefit the review process or at the request of the applicant.

Commented [CES25]: There are 3 conditions which may warrant a new CA review. This change spells out what those conditions are.

Commented [NRS26]: Covered by D.1.

Commented [NRS27]: Moved to C.4

Commented [NRS28]: Submittal Requirements not previously listed

**16.16.255 Critical Areas Assessment Reports.**

A. When the technical administrator determines a need for additional a critical area assessment pursuant to WCC 16.16.250(C)(3), proposed development is within, abutting, or is likely to adversely affect a critical area or buffer pursuant to the provisions of this chapter, s/he/she shall have the authority to have the authority to require a critical areas assessment report, to be prepared by a ~~A~~ qualified professional, ~~as defined by this chapter, shall prepare the report and be~~ consistent with best available science. ~~The intent of these provisions is to require a reasonable level of technical study and analysis sufficient to protect critical areas.~~ The analysis shall be commensurate with the value or sensitivity of a particular critical area and relative to the scale and potential impacts of the proposed activity. A critical area assessment shall have all of the following elements, unless determined by the Technical Administrator not to be needed:

1. The requirements found in subsections (B) & (H);
2. Geological Hazard Assessment;
3. Critical Aquifer Recharge Assessment;
4. Frequently Flooded Area Assessment;
5. Wetland Assessment;
6. Fish and Wildlife Habitat Conservation Area Assessment;
7. A mitigation plan addressing all mitigation requirements of this Title.

A.B. The critical areas assessment report shall:

1. Demonstrate that the submitted proposal is consistent with the purposes and specific standards of this chapter;
2. Describe all relevant aspects of the development proposal and critical areas adversely affected by the proposal including any geological hazards and risks associated with the proposal, and assess impacts on the critical area from activities and uses proposed; and
3. Where impacts are unavoidable, demonstrate through an alternatives analysis that no other feasible alternative exists.
4. Consider the cumulative impacts of the proposed action that includes past, present, and reasonably foreseeable future actions to facilitate the goal of no net loss of critical areas. Such impacts shall include those to wildlife, habitat, and migration corridors; water quality and quantity; and other watershed processes that relate to critical area condition, process, and/or service.
5. Identify proposed mitigation and protective measures as required by this chapter.

B.C. The technical administrator shall review the critical areas assessment report for completeness and accuracy and shall consider the recommendations and conclusions of the critical areas assessment report to assist in making administrative decisions concerning approval, conditional approval, or denial of the subject project and to resolve issues concerning critical areas jurisdiction and appropriate mitigation and protective measures.

C.D. Critical areas assessment reports shall generally be valid for a period of five years from the date the assessment is approved by the technical administrator. Future land use applications may require preparation of new or supplemental critical area assessment reports unless it can be demonstrated to the satisfaction of the technical administrator that the previously prepared report is adequate for current analysis. The technical administrator may also require the preparation of a new critical area assessment report or a supplemental report when new information is found demonstrating that the initial assessment is in error. If the technical administrator requires more information in the report, s/he/she shall make the request in writing to the applicant stating what additional information is needed and why.

D.E. The technical administrator ~~may~~ shall reject or request revision of the field and literature findings and conclusions reached in a critical areas assessment report when ~~the technical administrator~~ s/he

**Commented [CES29]:** Though we've always required that less impactful alternatives to be looked at it wasn't specified that the alternatives analysis be in the CA assessment. Was thought that the public (and staff) have the ability to see that an applicant has done his due diligence.

**Commented [CAC30]:** Permits based on a report are often issued much later than when the report was approved.

can demonstrate that the assessment is inaccurate, incomplete, or does not fully address the critical areas impacts involved.

~~E.F.~~ To avoid duplication, the reporting requirements of this chapter shall be coordinated if more than one critical area assessment report is required for a site or development proposal. Similarly, where other agencies assessments or reports are required pursuant to other state or federal laws, the applicant is encouraged to submit one report that satisfies all such agencies' requirements.

~~F.G.~~ In addition to a hard copy, Applicants shall provide reports and maps to the County in an electronic format that allows site data to be incorporated into the County critical areas database; provide however, that the County may waive the electronic format this requirement for single-family developments building permits. Applicants shall follow Whatcom County are encouraged to coordinate with the technical administrator regarding electronic submittal guidelines. This requirement shall not be construed as a requirement to use specific computer software, though it must be in a format useable by the County.

~~G.H.~~ The intent of these provisions is to require a reasonable level of technical study and alternatives analysis pursuant to WCC 16.16.225 sufficient to assess potential project impacts and to protect critical areas. At a minimum, a critical areas assessment report shall include the following information:

1. A site plan showing the proposed development footprint and clearing limits, all relevant critical areas and buffers within and abutting the site, a written description of the project, an examination of project on-site design alternatives, and an explanation of why the proposed activity requires a location on, or access across, a critical area and why alternatives are not feasible;
2. A written description of the critical areas and buffers on or ~~abutting~~ in the vicinity of the site, including their size, type, classification or rating, condition, disturbance history, and functions and values. Projects in frequently flooded areas must comply with the reporting requirements of WCC Title 17. Projects on or adjacent to geologically hazardous areas shall identify the type of hazard and assess the associated risks posed by the development or that the development may be subject to;
3. An analysis of potential adverse critical area impacts associated with the proposed activity including, but not limited to, effects related to clearing, grading, noise, light/glare, drilling, damming, draining, creating impervious surface, managing stormwater, releasing hazardous materials, and other alterations, and including an explanation of critical area processes and functions that may be affected;
4. An analysis of how critical area impacts or risks will be avoided and/or minimized, and/or an analysis of the proposed measures to prevent or minimize hazards. When impacts cannot be avoided, the report shall include a plan describing mitigation that will be provided to replace critical area functions and values altered as a result of the proposal. The mitigation plan shall be consistent with the provisions of WCC 16.16.260 and provide written documentation showing what the applicant considered for each step in the mitigation sequencing and the other applicable articles of this chapter;
5. The dates, names, signature, and qualifications of the persons preparing the report and documentation of analysis methods including any fieldwork performed on the site; and
6. Additional reasonable information requested by the technical administrator for the assessment of critical areas impacts or otherwise required by the subsequent articles of this chapter.

**Commented [CES31]:** Trying to make it clear that an applicant can produce one report as long as it covers all agencies requirements.

**Commented [NRS32]:** Clarifying that some review requires discussion at watershed scale.

**Commented [CES33]:** Essentially requiring that the applicant "show his work" in coming to a certain conclusion so that the public might understand.

**Commented [NRS34]:** Reports should be signed by Author

**16.16.260 General Mitigation Requirements.**

Developments permitted pursuant to this chapter that adversely impact or alter a critical area or buffer shall include mitigation sufficient to minimize risks associated with geologic hazards and/or maintain or replace critical areas functions and values. Any proposed development that cannot adequately mitigate critical area impacts as determined by the technical administrator shall be denied.

## 1 A. Mitigation Sequence.

- 2 1. When an alteration or impact to a critical area or buffer is proposed, the applicant shall conduct  
3 an alternatives/mitigation sequencing analysis and demonstrate that all reasonable efforts have  
4 been taken to mitigate adverse impacts in the following prioritized order:
- 5 a. Avoiding the adverse impact altogether by not taking a certain action or parts of an action,  
6 or moving the action.
  - 7 b. Minimizing adverse impacts by limiting the degree or magnitude of the action and its im-  
8 plementation by using appropriate technology and engineering, or by taking affirmative  
9 steps to avoid or reduce adverse impacts.
  - 10 c. Rectifying the adverse impact by repairing, rehabilitating, or restoring the affected environ-  
11 ment.
  - 12 d. Reducing or eliminating the adverse impact over time by preservation and maintenance op-  
13 erations during the life of the action.
  - 14 e. Compensating for the adverse impact by replacing, enhancing, or providing similar substi-  
15 tute resources or environments and monitoring the adverse impact and the mitigation pro-  
16 ject and taking appropriate corrective measures.
- 17 2. Mitigation shall be provided for all unavoidable adverse alterations of a critical area or buffer.  
18 Mitigation for individual projects may include a sequenced combination of the above measures  
19 as needed to achieve the most effective protection, compensation for buffer functions and val-  
20 ues, or compensatory mitigation for critical area functions and values.

## 21 B. Mitigation Plan.

- 22 1. ~~Compensatory mitigation shall be provided for all unavoidable adverse alterations to a critical~~  
23 ~~area or buffer.~~ A mitigation plan shall be developed in accordance with an approved critical are-  
24 as assessment report and be consistent with best available science. Where appropriate, the mit-  
25 igation plan should be compatible with watershed and recovery planning goals for Whatcom  
26 County. The intent of these provisions is to require a level of technical study and analysis suffi-  
27 cient to protect critical areas and/or protect developments and occupants from critical areas in-  
28 volving hazards. The analysis shall be commensurate with the value or sensitivity of a particular  
29 critical area and relative to the scale and potential impacts of the proposed activity.
- 30 2. The mitigation plan shall provide for construction, maintenance, monitoring, and contingencies  
31 as required by conditions of approval and consistent with the requirements of this chapter.
  - 32 3. The mitigation plan shall be prepared by a qualified professional; provided, that the technical  
33 administrator may waive the requirement to hire a qualified professional to prepare a mitigation  
34 plan when the required mitigation involves standard planting or enhancement practices. The  
35 waiver shall not be granted for mitigation practices involving wetland creation, rehabilitation  
36 and/or restoration.
  - 37 4. The mitigation plan shall contain the following information:
    - 38 a. A description and scaled drawings of the activities proposed to reduce risks associated with  
39 geologic hazards and/or flooding, and/or to mitigate for impacts to critical area functions  
40 and values. This shall include all clearing, grading/ excavation, drainage alterations, planting,  
41 invasive weed management, installation of habitat structures, construction sequencing, best  
42 management practices, site protection, irrigation, and other site treatments associated with  
43 the development activities.
    - 44 b. Specific information on construction or the proposed mitigation activity including timing,  
45 sequence, equipment needs, ~~and~~ best management practices, and responsible parties.
    - 46 c. A description of the functions and values that the proposed mitigation area(s) shall provide,  
47 and/or a description of the level of hazard mitigation provided.

- d. The goals, objectives, and performance standards that the proposed mitigation action(s) shall achieve or demonstrate consistency with.
- e. A description of how the mitigation area(s) will be evaluated and monitored to determine if the performance standards are being met.
- f. A program and schedule for construction and post-construction performance monitoring of the mitigation project.
- g. An evaluation of potential adverse impacts on adjacent property owners resulting from the proposed mitigation and measures to address such impacts. Mitigation projects shall not result in adverse impacts to adjacent property owners.
- h. Identification of potential courses of action or contingencies, and any corrective measures to be taken if monitoring or evaluation indicates that project performance standards are not being met.
- i. Plan sheets with scale identified, showing the edge of the critical area and buffer area. The affected critical area and buffer shall be clearly staked, flagged, and/or fenced prior to and during any site clearing and construction to ensure protection for the critical area and buffer during construction.
- j. A description of other permits and approvals being sought, including the need for permits from state and/or federal agencies.
- k. Additional information as required by the subsequent articles of this chapter.

C. Mitigation Monitoring and Maintenance.

- 1. The technical administrator shall have the authority to ~~have the authority to~~ require that compensatory mitigation projects be monitored annually for at least five years to establish that performance standards have been met. Required monitoring reports shall be submitted to the County annually during the monitoring period to document milestones, successes, problems, and contingency actions of the compensatory mitigation. The technical administrator may reduce the monitoring timeframe to three years for minor mitigation projects involving critical area or buffer revegetation or vegetation enhancement, but not for projects involving wetland creation, wetland restoration, stream restoration or other activities that require manipulation of soils or water. All mitigation areas shall be maintained and managed to prevent degradation and ensure protection of critical area functions and values subject to field verification by the technical administrator.
- 2. The technical administrator shall have the authority to extend the monitoring period, require corrective measures, and/or require additional monitoring reports beyond the initial monitoring period for any project that does not meet the performance standards identified in the mitigation plan, or does not provide adequate replacement for the functions and values of the impacted critical area.
- 3. Permanent protection shall be achieved through deed restriction or other protective covenant in accordance with WCC 16.16.265.

D. Mitigation Assurance.

- 1. The applicant and his/her representatives shall demonstrate sufficient scientific expertise and capability to implement the mitigation, monitor the site, and make corrections if the project fails to meet projected goals. The technical administrator may require the following to ensure that the mitigation is fully functional:
  - a. The applicant shall post a mitigation surety in the amount of 125% percent of the estimated cost of the uncompleted actions or the estimated cost of restoring the functions and values of the critical area that are at risk, whichever is greater. The surety 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.

- b. The surety shall be in the form of an assignment of funds or other means approved by the technical administrator.
- c. Surety authorized by this section shall remain in effect until the technical administrator determines, in writing, that the standards bonded for have been met. Surety shall generally be held by the County for a period of five years to ensure that the required mitigation has been fully implemented and demonstrated to function, and may be held for longer periods when necessary. Surety for construction may be reduced after initial completion in an amount not to exceed the cost of monitoring plus not less than 25% percent of the construction cost.
- d. Depletion, failure, or collection of surety funds shall not discharge the obligation of an applicant or violator to complete required mitigation, maintenance, or monitoring.
- 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, or monitoring.
- 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 30 days after it is due or comply with other provisions of an approved mitigation plan shall constitute a default subject to the provisions of WCC 16.16.280, and the County may demand payment of any financial guarantees or require other action authorized by the County code or any other law.
- g. Any funds recovered pursuant to this section shall be used to complete the required mitigation.

E. Permanent Protection. All mitigation areas shall be protected and managed to prevent degradation and ensure protection of critical area functions and values in perpetuity. Permanent protection shall be achieved through deed restriction or other protective covenant in accordance with WCC 16.16.265. If additional development is proposed that impacts a mitigation area and those impacts are accounted for under a new, approved mitigation plan, such protection may be removed so long as the final plan meets the requirements of this chapter for all cumulative impacts.

**16.16.261 Alternative or Innovative Mitigation Approaches-Plans and Watershed-Based Management Plans.**

~~—The County shall consider shall facilitate review and may approve/or approval of:~~  
 A. ~~a~~An alternative or innovative mitigation plans for ~~a~~major developments (as defined by this in Article 9 of this chapter), ~~a~~planned unit developments (pursuant to Chapter 20.85 WCC), and/or ~~a~~development agreements (pursuant to RCW 36.70B.170 through 36.70B.210);~~or,~~  
~~— A watershed based management plan sponsored by a watershed improvement district, other special purpose district, or other government agency.~~

A.B. The mitigationIf approved, said plan shall be used to satisfy the requirements of this chapter and provide relief and/or deviation as appropriate from the specific standards and requirements thereof; provided, that the standards of impact avoidance and minimization shall remain as guiding principles in the application of these provisions and when it is demonstrated that all of the following circumstances exist:

1. The proponent(s) demonstrate the organizational and fiscal capability to carry out the purpose and intent of the plan;
2. The proponent(s) demonstrate that long-term management, maintenance, and monitoring ~~of the watershed~~ will be adequately funded and effectively implemented;
3. There is a clear likelihood for success of the proposed plan based on supporting scientific information ~~and~~or demonstrated experience in implementing similar plans;

**Commented [TAC35]:** The 3 alternative approaches to mitigation – Alternative Mitigation Plans, Watershed-Based Management Plans, and Mitigation Banking – have been separated out into their own sections since they are different major topics. Rules remain substantially the same though.

- 1 4. In terms of functional value, ~~the proposed project mitigation plan results in equal or greater~~
- 2 ~~protection and conservation of critical areas~~ functions, services, and values than would be
- 3 ~~achieved using parcel-by-parcel regulations and/or traditional mitigation approaches;~~
- 4 5. The plan is consistent with the general purpose and intent of this chapter, the Shoreline Man-
- 5 agement Program (WCC Title 23), and the comprehensive plan;
- 6 6. The plan shall contain relevant management strategies considered effective and within the
- 7 ~~scope of this chapter and shall document when, where, and how such strategies substitute for~~
- 8 ~~compliance with the specific standards herein; and~~
- 9 ~~7. The plan shall contain clear and measurable standards for achieving compliance with the pur-~~
- 10 ~~poses of this chapter, a description of how such standards will be monitored and measured over~~
- 11 ~~the life of the plan, and a fully funded contingency plan if any element of the plan does not meet~~
- 12 ~~standards for compliance.~~
- 13 ~~8. The County shall facilitate review and/or approval of a watershed-based management plan~~
- 14 ~~sponsored by a watershed improvement district or other special-purpose district when it meets~~
- 15 ~~the general purpose and intent of this chapter. Such plans may be used to satisfy the require-~~
- 16 ~~ments of this chapter and provide relief from the specific standards and requirements thereof~~
- 17 ~~when it is demonstrated that all of the following circumstances exist:~~
- 18 ~~9. The proponent(s) demonstrate the organizational and fiscal capability to carry out the purpose~~
- 19 ~~and intent of the plan;~~
- 20 ~~10. The proponent(s) demonstrate that long term management, maintenance, and monitoring of~~
- 21 ~~the watershed will be adequately funded and effectively implemented;~~
- 22 ~~11. There is a clear likelihood for success of the proposed plan based on demonstrated experience~~
- 23 ~~in implementing similar plans or supporting scientific information;~~
- 24 ~~12. The proposed project results in equal or greater protection and conservation of critical areas~~
- 25 ~~than would be achieved using parcel-by-parcel regulations and/or traditional mitigation ap-~~
- 26 ~~proaches;~~
- 27 ~~13. The plan is consistent with an approved watershed plan prepared pursuant to Chapter 90.82~~
- 28 ~~RCW (the State Watershed Management Act) or the plan is prepared under other local or state~~
- 29 ~~authority that is consistent with the goals and policies of an applicable and approved watershed~~
- 30 ~~plan prepared pursuant to Chapter 90.82 RCW;~~
- 31 ~~14. The plan shall contain relevant management strategies considered effective and within the~~
- 32 ~~scope of this chapter and shall document when, where, and how such strategies substitute for~~
- 33 ~~compliance with the specific standards herein; and~~
- 34 ~~15.7. The plan shall contain clear and measurable standards for achieving compliance with the~~
- 35 ~~purposes of this chapter, a description of how such standards will be monitored and measured~~
- 36 ~~over the life of the plan, and a fully funded contingency plan if any element of the plan does not~~
- 37 ~~meet standards for compliance.~~

**Commented [CES36]:** While it looks like a lot was deleted, it was only condensed and combine for brevity. Policies are all the same.

~~B. Alternative mitigation plans shall be reviewed concurrently with the underlying land use permit(s) and decisions to approve or deny such plans shall be made in accordance with the underlying permit process. A watershed-based management plan and/or an alternative mitigation plan developed under this section for a major development, planned unit development or developer agreement shall be allowed to substitute for the standards and requirements of this chapter when approved by the designated decision maker for the underlying development permit, as per County code. The process for approval shall be as follows:~~

~~C. The plan shall be reviewed by the technical administrator to ensure compliance with the general purpose and intent of the purposes of this chapter, the Whatcom County Shoreline Management Program (WCC Title 23), and with the comprehensive plan, and to ensure accuracy of the data and effectiveness of proposed management strategies. In making this determination the technical administrator shall consult with the State Departments of Fish and Wildlife, Ecology, Natural Resources, and/or other local, state, federal, and/or tribal agencies or experts.~~

~~D.C. If the technical administrator finds the plan to be complete, accurate, and consistent with the purposes and intent of this chapter, the designated decision-maker shall solicit comment pursuant to the public notice provisions of Chapter 2.33 WCC prior to final approval/denial of permission of the plan to substitute for the requirements and standards of this chapter.~~

- ~~1. Alternative mitigation plans associated with major developments, planned unit developments, and/or developer agreements shall be reviewed concurrently with the underlying land use permit(s) and decisions to approve or deny such plans shall be made in accordance with the underlying permit process.~~
- ~~2. Watershed-based management plans approved by the Whatcom County council shall be adopted by ordinance and appended to this chapter.~~
- ~~3. The designated decision-maker shall not approve watershed-based management plans that conflict with Chapter 90.82 RCW.~~

**16.16.262 Watershed-Based Management Plans.**

~~A. The County may consider watershed-based management plans A watershed-based management plan sponsored by a watershed improvement districts, other special purpose districts, or other government agencies.~~

~~B. If approved, said plan may shall be used to satisfy the requirements of this chapter and provide relief and/or deviation as appropriate from the specific standards and requirements thereof; provided, that the standards of impact avoidance and minimization shall remain as guiding principles in the application of these provisions and when it is demonstrated that all of the following circumstances exist:~~

- ~~1. The proponent(s) demonstrate the organizational and fiscal capability to carry out the purpose and intent of the plan;~~
- ~~2. The proponent(s) demonstrate that long-term management, maintenance, and monitoring of the watershed will be adequately funded and effectively implemented;~~
- ~~3. There is a clear likelihood for success of the proposed plan based on supporting scientific information or demonstrated experience in implementing similar plans;~~
- ~~4. In terms of functional value, the proposed mitigation plan results in equal or greater restoration, protection, and conservation of the impacted critical areas than would be achieved using parcel-by-parcel regulations and/or traditional mitigation approaches;~~
- ~~5. The plan is consistent with the general purpose and intent of this chapter, the comprehensive plan, and an approved watershed plan prepared pursuant to Chapter 90.82 RCW (the State Watershed Management Act) or the plan is prepared under other local or state authority that is~~

1 consistent with the goals and policies of an applicable and approved watershed plan prepared  
 2 pursuant to Chapter 90.82 RCW;

3 6. The plan shall contain relevant management strategies considered effective and within the  
 4 scope of this chapter and shall document when, where, and how such strategies substitute for  
 5 compliance with the specific standards herein; and

6 7. The plan shall contain clear and measurable standards for achieving compliance with the pur-  
 7 poses of this chapter, a description of how such standards will be monitored and measured over  
 8 the life of the plan, and a fully funded contingency plan if any element of the plan does not meet  
 9 standards for compliance.

10 C. Watershed-Based Management Plans shall be approved by the County Council by ordinance and  
 11 appended to this chapter. The process for approval shall be as follows:

12 1. The plan shall be reviewed by the technical administrator to ensure compliance with the pur-  
 13 poses of this chapter, the Whatcom County Shoreline Management Program (WCC Title 23), and  
 14 with the comprehensive plan, and to ensure accuracy of the data and effectiveness of proposed  
 15 management strategies. In making this determination the technical administrator shall consult  
 16 with the State Departments of Fish and Wildlife, Ecology, Natural Resources, and/or other local,  
 17 state, federal, and/or tribal agencies or experts.

18 2. If the technical administrator finds the plan to be complete, accurate, and consistent with the  
 19 purposes and intent of this chapter, the designated decision-maker shall solicit comments pur-  
 20 suant to the public notice provisions of Chapter 2.33 WCC prior to final approval/denial of per-  
 21 mission of the plan to substitute for the requirements and standards of this chapter.

22 3. The designated decision-maker shall not approve watershed-based management plans that con-  
 23 flict with Chapter 90.82 RCW.

24 **16.16.263 Mitigation Banking.**

25 A. The County may approve mitigation banking as a form of compensatory mitigation for wetland and  
 26 habitat conservation area impacts when the provisions of this chapter require mitigation and when  
 27 it is clearly demonstrated that the use of a bank will provide equivalent or greater replacement of  
 28 critical area functions and values when compared to on-site mitigation; provided, that all of the fol-  
 29 lowing criteria are met:

- 30 1. Banks shall only be used when they provide significant ecological benefits including long-term  
 31 conservation of critical areas, important species, habitats and/or habitat linkages, and when  
 32 they are consistent with the County Comprehensive Plan and create a viable alternative to the  
 33 piecemeal mitigation for individual project impacts to achieve ecosystem-based conservation  
 34 goals.
- 35 2. The bank shall be established in accordance with the Washington State Draft Mitigation Banking  
 36 Rule, Chapter [173-700 WAC](#) or as revised, and Chapter [90.84 RCW](#) and the federal mitigation  
 37 banking guidelines as outlined in the Federal Register, Volume 60, No. 228, November 28, 1995.  
 38 These guidelines establish the procedural and technical criteria that banks must meet to obtain  
 39 state and federal certification.
- 40 3. Preference shall be given to mitigation banks that implement restoration actions that have been  
 41 identified formally by an adopted shoreline restoration plan, watershed planning document  
 42 prepared and adopted pursuant to Chapter [90.82 RCW](#), a salmonid recovery plan or project that  
 43 has been identified on the ~~Watershed Management Salmon Recovery~~ Board Habitat Project List  
 44 or by the Washington State Department of Fish and Wildlife as essential for fish and wildlife  
 45 habitat enhancement.

46 B. Mitigation banks shall require a major project permit in accordance with Chapter [20.88 WCC](#) and  
 47 shall be subject to a formal review process including public review as follows:

- 1 1. The bank sponsor shall submit a bank prospectus for County review. The prospectus shall identify the conceptual plan for the mitigation bank, including:
  - 2 a. The ecological goals and objectives of the bank;
  - 3 b. The rationale for site selection, including a site map and legal description of the prospective
  - 4 bank site;
  - 5 c. A narrative demonstrating compliance with the Whatcom County comprehensive plan, as-
  - 6 sociated development standards and this chapter, shoreline restoration plan, watershed
  - 7 planning documents prepared and adopted pursuant to Chapter [90.82](#) RCW, and/or the
  - 8 salmonid recovery plan;
  - 9 d. A description of the existing site conditions and expected changes in site conditions as a re-
  - 10 sult of the banking activity, including changes on neighboring lands;
  - 11 e. A conceptual site design;
  - 12 f. A description of the proposed protective mechanism such as a conservation easement; and
  - 13 g. Demonstration of adequate financial resources to plan, implement, maintain, and adminis-
  - 14 ter the project.
- 15 2. The technical administrator shall review the bank prospectus either by participating in the
- 16 state’s Mitigation Bank Review Team (MBRT) process and/or by hiring independent, third-party
- 17 expertise to assist in the review.
- 18 3. If the technical administrator determines that the bank prospectus is complete, technically accu-
- 19 rate, and consistent with the purpose and intent of this chapter, ~~s/he/she~~ shall forward the pro-
- 20 spectus to the County Council for initial review. If the proposed bank involves conversion of ag-
- 21 ricultural land to nonagricultural uses, the County Council shall seek an ~~initial~~ recommendation
- 22 from the Agricultural Advisory Committee as to whether the conversion ~~shall should~~ be allowed.
- 23 The Committee’s recommendation shall be nonbinding. The County Council may require mitiga-
- 24 tion for the loss of agricultural lands.
- 25 4. If the County Council determines, based on the initial review, that the prospectus is valid, it shall
- 26 issue a notice to proceed to the bank sponsor. Following receipt of the notice to proceed, the
- 27 bank sponsor may submit application for a major project permit in accordance with Chapter
- 28 [20.88](#) WCC. The notice to proceed shall not be construed as final approval of the bank proposal,
- 29 but shall indicate approval to proceed with the development of the mitigation bank instrument,
- 30 which details all of the legal requirements for the bank.
- 31 5. Upon receipt of a draft mitigation banking instrument from the bank sponsor and major project
- 32 permit application, the technical administrator shall review the banking instrument and major
- 33 project permit in consultation with the MBRT and/or other third-party expert. Following review
- 34 of the mitigation banking instrument and major project permit, the technical administrator shall
- 35 make a recommendation to certify and approve, conditionally certify and approve, or deny the
- 36 bank proposal and major project permit in accordance with the procedures of Chapter [20.88](#)
- 37 WCC.
- 38 6. Following receipt of the recommendation, the County Council shall proceed with review in ac-
- 39 cordance with the procedures outlined in Chapter [20.88](#) WCC. ~~The county council shall seek a fi-~~
- 40 ~~nal recommendation from the agricultural advisory committee if the proposal involves conver-~~
- 41 ~~sion of agricultural land.~~
- 42 7. The bank sponsor shall be responsible for the cost of any third-party review.
- 43 C. The award of bank credits for an approved bank may be negotiated based on habitat acreage, habi-
- 44 tat quality, and contribution to a regional conservation strategy that has been approved by the
- 45 County and other appropriate regulatory agency(ies). Credit availability may vary in accordance with
- 46 agreed upon performance criteria for the development of the resource value in question. Awarded
- 47 bank credits, subject to the approval of the County and regulatory agency(s), may be made trans-
- 48

Commented [CES37]: This is already stated in subsection B(3).

able. Whether out-of-kind mitigation credit will be allowed at a particular bank will require a fact-specific inquiry on a case-by-case basis for the project creating the impacts.

D. Use of Bank Credits

- 1. Credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetlands when:
  - a. The bank is certified under state rules;
  - b. The Administrator determines that the wetland mitigation bank provides appropriate compensation for the authorized impacts; and
  - c. The proposed use of credits is consistent with the terms and conditions of the certified bank instrument.
- 2. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the certified bank instrument.
- 3. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the certified bank instrument. In some cases, the service area of the bank may include portions of more than one adjacent drainage basin for specific wetland functions.

Commented [SM38]: From DOE guidance document.

16.16.264 In-Lieu Fees.

To aid in the implementation of off-site mitigation, the County may develop an in-lieu fee program. This program shall be developed and approved through a public process and be consistent with federal rules, state policy on in-lieu fee mitigation, and state water quality regulations. An approved in-lieu-fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor, a governmental or non-profit natural resource management entity. Credits from an approved in-lieu-fee program may be used when paragraphs 1-6 below apply:

Commented [SM39]: Was thought that the County should consider an in-lieu fee program. This language, which comes from DOE guidance documents, allows for such a program to be established.

- 1. The approval authority determines that it would provide environmentally appropriate compensation for the proposed impacts.
- 2. The mitigation will occur on a site identified using the site selection and prioritization process in the approved in-lieu-fee program instrument.
- 3. The proposed use of credits is consistent with the terms and conditions of the approved in-lieu-fee program instrument.
- 4. Land acquisition and initial physical and biological improvements of the mitigation site must be completed within ~~three~~five years of the credit sale.
- 5. Projects using in-lieu-fee credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland scientist using the method consistent with the credit assessment method specified in the approved instrument for the in-lieu-fee program.
- 6. Credits from an approved in-lieu-fee program may be used to compensate for impacts located within the service area specified in the approved in-lieu-fee instrument.

**16.16.265 Critical Areas Protective Measures.**

When an impact to critical area or a buffer ~~has been~~will occur due to a proposed development, a standard buffer width has been altered, or mitigation is required, one or more of the following protective measure shall be applied:

- A. **Deterrent Devices/Signage.** The technical administrator, as a condition of permit approval, may require that the outer boundary of a wetland or habitat conservation area ~~critical area and its or~~ buffer, a mitigation site, a designated open space, or a conservation easement be identified with signs, ~~or~~ markers, ~~and/or fencing when needed~~ to minimize potentially harmful intrusions from adjacent land uses, to alert citizens to a potential public health or safety risk associated with a critical area, or

Commented [NRS40]: To clarify when a protective measure is required

Commented [CES41]: These are the only types of CAs that could practically be signed; others are too amorphous or large.

1 to accomplish other objectives specifically provided for elsewhere in this chapter. The technical ad-  
 2 ministrator shall provide specifications on the type, content, and size of the signs prior to permit ap-  
 3 proval. The signs shall be posted near primary access points and approximately every 200 feet along  
 4 the critical area boundary ~~unless the technical administrator determines that more or less frequent~~  
 5 ~~spacing is adequate considering the size and location of the site (see also Appendix C of this chap-~~  
 6 ~~ter).~~

7 B. **Notice on Title.** The owner of any property containing any critical area or buffer for which a devel-  
 8 opment permit is about to be issued shall record a notice with the County Auditor real estate rec-  
 9 ords, in a format approved by the technical administrator, and provide a copy of the filed notice to  
 10 the Planning and Development Services Department at the time the permit is issued. The notice  
 11 shall ~~state advise of the general~~ presence of ~~the a~~ critical area or buffer on the property, and ~~the~~  
 12 ~~fact~~ that limitations on actions in or affecting the critical area or buffer exist. The notice shall pro-  
 13 vide that restrictions on uses within the critical area exist until such time as the technical adminis-  
 14 trator approves a change in restriction and such approval is filed. This notice on title shall not be re-  
 15 quired for a development proposal by a public agency or public or private utility within a right-of-  
 16 way or easement for which they do not have fee-simple title. This requirement may shall be waived  
 17 by the Technical Administrator for certain geologically hazardous areas if s/he finds that the risk is so  
 18 low as to not warrant notification (e.g., old alluvial deposits).

19 C. **Tracts and Easements.** Prior to final approval of any development permits subdivisions, short subdivi-  
 20 sions, or binding site plans, the part of the critical area and required buffer that is located on the site  
 21 shall be protected using one of the following mechanisms:

- 22 1. Placed in a separate tract or tracts owned in common by all lots within a subdivision short sub-  
 23 division, or binding site plan;
- 24 2. Covered by a protective easement, or public or private land trust dedication; or
- 25 3. Preserved through an appropriate permanent protective mechanism that provides the same  
 26 level of permanent protection as designation of a separate tract or tracts as determined by the  
 27 County Technical Administrator or Hearing Examiner.

28 D. **Building Setback.** The County shall require buildings and other structures to be set back a minimum  
 29 distance of 10 feet from the edge of geological hazard setback, a critical area buffer, or from the crit-  
 30 ical area where no buffer is required. The following uses are allowed in the building setback:

- 31 1. Landscaping;
- 32 2. Uncovered decks;
- 33 3. Building overhangs less than 18 inches or less;
- 34 4. Impervious surfaces such as driveways, parking lots, roads, and patios; provided, that such sur-  
 35 faces conform to the applicable water quality standards and that construction equipment does  
 36 not enter or damage the buffer or critical area;
- 37 5. Clearing and grading;
- 38 6. Wells.

39 E. **Indemnification.** At the technical administrator's discretion, when a permit is granted for develop-  
 40 ment or use within a geologic, flood, or other hazard area, the property owner shall sign an indemni-  
 41 fication agreement acknowledging hazards posed to the development and absolving the County of  
 42 all responsibility, to be recorded against the property prior to permit issuance.

43 E-F. **Temporary protection measures** to identify location of critical areas and buffers such as construc-  
 44 tion fencing, erosion and sediment control, or similar shall be required during construction of the  
 45 proposed project.

Commented [TAC42]: There are certain hazards that pose such a low risk that it may not be necessary to notify.

Commented [CES43]: All of these are forms of land division and can create tracts.

Commented [CES44]: Standard roof overhang. Anything greater would shade plants.

Commented [NRS45]: To increase awareness of critical areas for contractors to avoid an intentional impacts.

16.16.270 Reasonable Use Exceptions and variances.

A. Permit applicants for a property so encumbered by critical areas and/or buffers that application of this chapter—including buffer averaging, buffer reduction, or other mechanism—would deny all reasonable use who are unable to comply with the specific standards of this chapter may seek approval pursuant to the reasonable use or variance standards and procedures provided for in this section.

Commented [NRS46]: Clarifies when reasonable use is appropriate

B. Reasonable Use Standards.

1. Nothing in this chapter is intended to preclude all reasonable economic use of property. If the application of this chapter would deny all reasonable economic use of the subject property, including agricultural use, use or development shall be allowed if it is consistent with the zoning code and the purposes of this chapter.

2. To qualify as a reasonable use, the technical administrator or hearing examiner, as appropriate, must find that the proposal is consistent with all of the following criteria:

- a. There is no portion of the site where the provisions of this chapter allow reasonable economic use, including agricultural use or continuation of legal nonconforming uses;
b. There is no feasible alternative to the proposed activities that will provide reasonable economic use with less adverse impact on critical areas and/or buffers. Feasible alternatives may include, but are not limited to, locating the activity on a contiguous parcel that has been under the ownership or control of the applicant since September 30, 2005 the effective date of the ordinance codified in this chapter, change in use, reduction in size, change in timing of activity, and/or revision of project design;
c. Activities will be located as far as possible from critical areas and the project employs all reasonable methods to avoid adverse effects on critical area functions and values, including maintaining existing vegetation, topography, and hydrology. Where both critical areas and buffer areas are located on a parcel, buffer areas shall be disturbed in preference to the critical area;
d. The proposed activities will not result in adverse effects on endangered or threatened species as listed by the federal government or the state of Washington, or be inconsistent with an adopted recovery plan;
e. Measures shall be taken to ensure the proposed activities will not cause degradation of groundwater or surface water quality, or adversely affect drinking water supply;
f. The proposed activities comply with all state, local and federal laws, including those related to erosion and sediment control, pollution control, floodplain restrictions, and on-site wastewater disposal;

Commented [TAC47]: The existing language doesn't specify which date, or which version of this chapter (the CAO went through many iterations. 9/30/05 is 10 days after the Exec signed Ord 2005-068, which contains the first instance of this section.

g. The proposed activities will not cause There will be no damage to nearby public or private other property properties;

g-h. The proposed activities will not increase risk and no threat to the health or safety of people on or off the site;

Commented [NRS48]: Nothing can totally eliminate risk, but we can help to not exacerbate it.

h-i. The inability to derive reasonable economic use of the property is not the result of segregating or dividing the property and/or creating the condition of lack of use after the effective date of the ordinance codified in this chapter September 30, 2005; and

Commented [CES49]: The existing language doesn't specify which date, or which version of this chapter (the CAO when through many iterations. 9/30/05 is 10 days after the Exec signed Ord 2005-068, which contains the first instance of this section.

j. The project includes mitigation for unavoidable critical area and buffer impacts in accordance with the mitigation requirements of this chapter;

k. For single-family residences, the maximum impact area shall may be no larger than 2,500 4,000 square feet. This impact area shall include the residential structure as well as appurtenant development that are necessarily connected to the use and enjoyment of a single-family residence. These appurtenant developments include garages, decks, drive-

Commented [CES50]: Staff has long used 2,500 sf as the size of a reasonable house. It comes from the SMP.

ways, parking, utilities (exclusive of on-site septic systems), and all lawn and non-native landscaping, with the following exceptions:

- i. On lots outside of the shoreline jurisdiction, when an extended driveway is necessary to access a portion of a development site with the least impact on critical area and/or buffers, those portions of the driveway shall be excluded from the 2,500 square foot maximum impact area provided that the access road meets the standards of WCC 16.16.620(E) or 16.16.720(C), as applicable.
- ii. On lots within the shoreline jurisdiction, when an extended driveway is necessary to access a portion of a development site with the least impact on critical area and/or buffers, approval of those driveway portions shall be sought through a Shoreline Variance (WCC 23.60.030) and demonstrate that the size and location of the driveway is the minimum relief necessary to access the development site.

~~C. Variance Standards. In cases where the reasonable use criteria of subsection A of this section do not apply, or for a variance from other standards of this chapter, the hearing examiner may grant a variance from the requirements in this chapter when the applicant proves by clear, cogent and convincing evidence of all of the following elements:~~

- ~~1. Because of special circumstances applicable to the subject property, including, but not limited to, size, shape, topography, location, surroundings, and other physical conditions, the application of this chapter precludes development of the property by the property owner as otherwise allowed in WCC Title 20, and~~
- ~~2. The granting of the variance will not be injurious to the health or safety of the community and every reasonable effort has been made to minimize adverse effects on critical areas; and~~
- ~~3. The variance does not constitute a grant of special privilege, and is not based upon reasons of hardship caused by previous actions of the current property owner after July 18, 1992, and the proposed modification to a critical area will be the minimum necessary to allow reasonable and economically viable use of the property; and~~
- ~~4. The project includes mitigation for unavoidable critical area and buffer impacts.~~

~~D.C. Reasonable Use and Variance Procedures.~~

1. Procedural requirements for ~~variances and~~ reasonable use ~~permit exception~~ applications shall be as follows:
  - a. ~~Variance and~~ Reasonable use ~~exception permit~~ applications shall be subject to an open record public hearing; ~~except provided,~~ that reasonable use ~~exception permit~~ applications for single-family residential building permits, ~~ees proposed to be located outside of geologically hazardous areas~~ or for other development proposals that would affect critical area buffers, but not the critical areas themselves, shall be processed administratively by the technical administrator.
  - b. ~~Variances and~~ Reasonable use ~~exception permit~~ applications that require an open record hearing shall be processed in accordance with Chapter 2.33 WCC and WCC 20.84.230.
  - c. Reasonable use ~~exception permit~~ applications that are subject to administrative approval by the technical administrator shall be processed in accordance with WCC 20.84.235.
  - d. The hearing examiner or technical administrator shall have the authority to set an expiration date for any or all ~~variance and/or~~ reasonable use approvals. The development proposal must be completed before the approval expires.
  - e. ~~Any person aggrieved by the granting, denying, or rescinding of a reasonable use exception permit by the technical administrator or~~ Any party of record may appeal the ~~Technical Administrator's decision~~ pursuant to ~~WCC 16.16.280 or the~~ hearing examiner decision ~~pursuant to~~ Chapter 20.92 WCC.

Commented [CES51]: Incorporated PDS Policy PLS-85-001A.

Commented [CES52]: Moved to 16.16.273

Commented [TAC53]: To reflect the changes made to 16.16.240.

- f. ~~Any person aggrieved by the granting, denying, or rescinding of a reasonable use permit by the technical administrator may seek review from the hearing examiner pursuant to WCC 16.16.280.~~
- g.f. Any application for a ~~variance or~~ reasonable use ~~exception permit~~ or approval which remains inactive for a period of 180 days shall expire and a new application and repayment of fees shall be required to reactivate the proposal; provided, that the technical administrator may grant a single 90-day extension for good cause. Delays such as those caused by public notice requirements, environmental (SEPA) review, litigation directly related to the proposal, or changes in government regulations shall not be considered as part of the inactive period.
- 2. All ~~variance or~~ reasonable use ~~exception permit~~ applications or other approvals shall be subject to the provisions of this chapter, which are in effect at the time of application.
- 3. Each application for a ~~variance-reasonable use exception permit~~ shall be accompanied by a fee as stated in the unified fee schedule.
- 4. In making reasonable use ~~or variance~~ decisions, the technical administrator ~~and/or hearing examiner~~ shall ~~have the authority to~~ require submittal of technical reports in accordance with WCC 16.16.255 and/or 16.16.260(B).

**16.16.273 Variances.**

- A. ~~Where strict application of requirements of this chapter renders compliance with these provisions an undue hardship in cases where the reasonable use criteria of WCC 16.16.270 do not apply, permit applicants may seek a variance pursuant to the variance standards and procedures provided in this section.~~
- A.B. ~~Variance Standards. In cases where the reasonable use criteria of subsection A of this section do not apply, or for a variance from other standards of this chapter, the hearing examiner may grant a variance from the dimensional requirements in this chapter when the applicant proves by clear, cogent, and convincing evidence of all of the following elements:~~
  - 1. ~~Because of special circumstances applicable to the subject property, including, but not limited to, size, shape, topography, location, surroundings, and other physical conditions, the application of this chapter precludes development of the property by the property owner as otherwise allowed in WCC Title 20; and,~~
  - 2. ~~The granting of the variance will not be injurious to the health or safety of the community and every reasonable effort has been made to minimize adverse effects on critical areas; and,~~
  - 3. ~~The variance does not constitute a grant of special privilege, and is not based upon reasons of hardship caused by previous actions of the current property owner after July 18, 1992, and the proposed modification to a critical area will be the minimum necessary to allow reasonable and economically viable use of the property; and,~~
  - 4. ~~The project includes mitigation for unavoidable critical area and buffer impacts.~~
  - 5. ~~No other feasible alternative exists.~~
- C. **Variance Procedures.**
  - 1. **Procedural requirements for variances applications shall be as follows:**
    - a. **Variance applications shall be subject to an open record public hearing, processed in accordance with Chapter 2.33 WCC and WCC 20.84.230.**
    - b. **The hearing examiner shall have the authority to set an expiration date for any or all variance approvals. The development proposal must be completed before the approval expires. The hearing examiner will render a decision pursuant to Chapter 20.92 WCC.**
    - c. **Any party of record may appeal the hearing examiner decision pursuant to Chapter 20.92 WCC.**

**Commented [CES54]:** The reasonable use and variance sections have been split into separate sections. It doesn't change any rules, however.

- d. Any application for a variance that remains inactive for a period of ~~180 days~~ 1 year shall expire and a new application and repayment of fees shall be required to reactivate the proposal; provided, that the technical administrator may grant a single 90 day up to two 1-year extensions for good cause. Delays such as those caused by public notice requirements, environmental (SEPA) review, litigation directly related to the proposal, or changes in government regulations shall not be considered as part of the inactive period.
- 2. All variance applications shall be subject to the provisions of this chapter that are in effect at the time of application.
- 3. Each application for a variance shall be accompanied by a fee as stated in the unified fee schedule.
- 4. In making variance decisions, the hearing examiner shall require submittal of technical reports in accordance with WCC 16.16.255 and/or 16.16.260(B).

Commented [TAC55]: Moved from above.

**16.16.275 Nonconforming uses/buildings.**

The following provisions shall apply to legally existing uses and/or buildings and/or structures that do not meet the specific standards of this chapter:

- A. The lawful use of any legal nonconforming building, structure, land, or premises existing on ~~September 30, 2005~~ the effective date of the adoption or amendment of this chapter, or authorized under a permit or approval issued, or otherwise vested, prior to ~~that effective date of the adoption or amendment of this chapter~~ date may be continued, subject to the provisions for a nonconforming structure in Chapter 20.83 WCC; provided, that agricultural activities shall conform to ~~section WCC 16.16.290~~ Article 98 (Conservation Program on Agriculture Lands). If a nonagricultural nonconforming use is intentionally abandoned for a period of ~~12 months~~ 5 years or more, then any future use of the nonconforming building, land, or premises shall be consistent with the provisions of this chapter.
- B. Expansion, alteration, and/or intensification of a nonconforming use is prohibited.
- ~~B-C.~~ Expansion, alteration, and/or intensification of a legal nonconforming building, or structure, (excluding normal maintenance and repair), is ~~prohibited~~ allowed unless if such use will produce impacts that degrade the critical area, including but not limited to vegetation clearing; additional impervious surfaces; generation of surface water runoff; discharge, or risk of discharge of pollutants; increased noise, light or glare, or increased risk associated with geologically hazardous areas.
- ~~C-D.~~ Nonconforming structures that are completely destroyed by fire, explosion, flood, or other casualty may be restored or replaced in kind if there is no alternative that allows for compliance with the standards of this chapter; provided, that the following are met:
  - 1. The reconstruction process is commenced within ~~18 months~~ 5 years of the date of such damage; and
  - 2. The reconstruction does not expand, enlarge, or otherwise increase the nonconformity, except as provided for in subsection ~~B-C~~ of this section.
- ~~D-E.~~ Nonconforming uses in shoreline areas shall be governed by the shoreline management provisions of the WCC Title 23.
- ~~E-F.~~ When a development permit is sought for a parcel containing a nonconforming building or structure that has been intentionally abandoned for a period of ~~12 months~~ 5 years or more, the technical administrator may require removal of the nonconforming building and restoration of the critical area or buffer in accordance with this chapter as a condition of permit approval.

Commented [CES56]: The existing language doesn't specify which date, or which version of this chapter (the CAO went through many iterations. 9/30/05 is 10 days after the Exec signed Ord 2005-068, which contains the first instance of this section.

Commented [NRS57]: Examples were all wetland and HCA centric.

**16.16.280 Appeals.**

- A. Final permit decisions made by the technical administrator shall be subject to appeal in accordance with the procedures of Chapter 2.33 WCC and WCC Title 20; provided, that the applicant may re-

- 1 quest administrative review by the director of planning and development services prior to initiating  
 2 a formal appeal process. Decisions of conditions applied to specific permits shall be subject to the  
 3 appeal provisions for that permit. A request for administrative review shall stay the time within  
 4 which one must file an appeal until a decision on the review is issued.  
 5 B. Any person may appeal to the hearing examiner a final administrative order, final requirement, final  
 6 permit decision, or final determination made; provided, that such appeal shall be filed in accordance  
 7 with the appeal procedure for the underlying permit. If there is no appealable permit or if the ap-  
 8 peal is for a reasonable use permit decision issued by the technical administrator, the appeal shall  
 9 be filed in writing within 14 calendar days of the date the written decision, order, requirement, or  
 10 determination is issued and public notice provided, unless the decision is issued as part of a SEPA  
 11 determination of nonsignificance for which a public comment period is required, in which case a 21-  
 12 day appeal period shall be provided.  
 13 C. The appeal will be upheld if the applicant proves that the decision appealed is clearly erroneous or  
 14 based upon error of law.  
 15 D. The hearing examiner shall have the authority to set an expiration date for any or all appeal approv-  
 16 als. The hearing examiner will render a decision pursuant to Chapter 20.92 WCC.  
 17 E. Each application for an appeal of an administrative decision to the hearing examiner shall be ac-  
 18 companied by a fee as stated in the unified fee schedule.  
 19 F. Pursuant to WCC 20.92.610, the applicant, any party of record, or any County department may ap-  
 20 peal any final decision of the hearing examiner to the County Council. The appellant shall file a writ-  
 21 ten notice of appeal at the County Council office within 10 business days of the final decision of the  
 22 Hearing Examiner.  
 23 G. Any issue not raised by the time of appeal in the original appeal filing to superior court is thereafter  
 24 waived.

25 **16.16.285 Penalties and Enforcement.**

- 26 A. Any person who violates any of the provisions of this chapter shall be guilty of liable for a civil of-  
 27 fense and may be fined a sum not to exceed \$1,000 for each offense. After a notice of violation has  
 28 been given, each day of site work in conjunction with the notice of violation shall constitute a sepa-  
 29 rate offense.  
 30 1. The penalty provided in subsection A of this section shall be assessed and may be imposed by a  
 31 notice in writing either by certified mail with return receipt requested or by personal service to  
 32 the person incurring the same. The notice shall include the amount of the penalty imposed and  
 33 shall describe the violation with reasonable particularity. In appropriate cases, corrective action  
 34 shall be taken within a specific and reasonable time.  
 35 2. Within 30 business calendar days after the notice is received, the person incurring the penalty  
 36 may apply in writing to the County for remission or mitigation of such penalty. Upon receipt of  
 37 the application, the County may remit or mitigate the penalty upon whatever terms the County  
 38 in its discretion deems proper. The County's final decision on mitigation or revision shall be re-  
 39 viewed by the hearing examiner if the aggrieved party files a written appeal therewith of said  
 40 decision within 10 business calendar days of its issuance.  
 41 B. If work activity has occurred on a site in violation of this chapter, prompt corrective action, restora-  
 42 tion, or mitigation of the site will be required when appropriate. If this provision is not complied  
 43 with, the County may restore or mitigate the site and charge the responsible person property owner  
 44 for the full cost of such an activity. Additionally, any and all permits or approvals issued by the Coun-  
 45 ty may be denied for that site for a period of up to six years.  
 46 C. In the event any person violates any of the provisions of this chapter, the County may issue a correc-  
 47 tion notice to be delivered to the owner or operator, or to be conspicuously posted at the site. In a

**Commented [TAC58]:** Standard language these days to preclude someone from raising new issues before the court not heard by the County's appeal body.

**Commented [PC59]:** Recommended by PA. "Responsible Party" is ambiguous. Holding the property owner responsible is the same as how the building code works for building code violations.

1 nonemergency situation, such notice may include notice of the intent to issue a stop work order no  
 2 less than 10 ~~business calendar~~ days following the receipt of the correction notice, and provide for an  
 3 administrative predeprivation hearing within 10 ~~business calendar~~ days of the notice. In an emer-  
 4 gency situation where there is a significant threat to public safety or the environment, the County  
 5 may issue a stop work order. The stop work order shall include, in writing, the right to request an  
 6 administrative predeprivation hearing within 72 hours following receipt of the stop work order. Fail-  
 7 ure to comply with the order to stop work shall be a gross misdemeanor punishable upon conviction  
 8 by a minimum fine of \$500 up to a maximum fine of \$1,000 or one year in jail, or both. Under no cir-  
 9 cumstance may the court defer or suspend any portion of the minimum \$500 fine for any conviction  
 10 under this section. Each day or part thereof of noncompliance with said order to stop work shall  
 11 constitute a separate offense.

12 D. The County may suspend or revoke a permit if the applicant violates the conditions or limitations set  
 13 forth in the permit or exceeds the scope of the work set forth in the permit.

14 E. The prosecuting attorney may enforce compliance with this chapter by such injunctive, declaratory,  
 15 or other actions as deemed necessary to ensure that violations are prevented, ceased, or abated.

16 F. Any person who, through an act of commission or omission, procures, aids, or abets in the violation  
 17 shall be considered to have committed a violation for the purposes of the civil penalty.

18 ~~F.G.~~ After the Fact Permit Fee. After the ~~Fact~~ permit application fees shall be double the amount estab-  
 19 lished by the Unified fee ~~schedule~~.

20 ~~16.16.290 Conservation program on agriculture lands (CPAL)~~

21 **16.16.295 Open Space and Conservation.**

22 The following programs may be employed to achieve the purposes of this chapter and minimize the  
 23 burden to individual property owners from application of the provisions of this chapter:

- 24 A. Open Space. Any property owner whose property contains a critical area or buffer and who meets  
 25 the applicable qualifying criteria may apply for open space taxation assessment pursuant to Chapter  
 26 [84.34](#) RCW.
- 27 B. Conservation Easement. Any person who owns an identified critical area or its associated buffer may  
 28 place a conservation easement over that portion of the property by naming the County or its quali-  
 29 fied designee under RCW [64.04.130](#) as beneficiary of the conservation. This conservation easement  
 30 may be in lieu of separate critical areas tracts that qualify for open space tax assessment described  
 31 in subsection A of this section. The purpose of the easement shall be to preserve, protect, maintain,  
 32 and limit use of the affected property. The terms of the conservation easement may include prohibi-  
 33 tions or restrictions on access and shall be approved by the property owner and the County.
- 34 C. Conservation Futures Fund. The County may consider using the conservation futures property tax  
 35 fund as authorized by RCW [84.34.230](#) for the acquisition of properties containing significant critical  
 36 areas and their associated buffers.

**Commented [NRS60]:** Charging "after the fact" fees is consistent with how PDS handles "atf" building permits. It should be cheaper to ask for permission than forgiveness.

**Commented [CES61]:** This entire section was moved to Article 8 and combined with Appendix A.

**ARTICLE 3. GEOLOGICALLY HAZARDOUS AREAS**

**16.16.300 Purpose.**

The purposes of this Article are to minimize risks to public health, human life and safety and reduce the risk of property damage by regulating development on or adjacent to geologically hazardous areas to structures and property from geologic hazards, to allow for natural geologic processes supportive of forming and maintaining fish and wildlife habitat, and to regulate and inform land use and planning decisions. It is recognized that the elimination of all risk from geologic hazards is not feasible to achieve but the purpose of this Article is to reduce the risk to acceptable levels.

- ~~A. Minimize risks to public health and safety and reduce the risk of property damage by regulating development on or adjacent to geologically hazardous areas.~~
- ~~B. Regulate land use so as to avoid the need for construction of flood control devices or channel modifications on alluvial fans and allow for natural hydrologic processes.~~
- ~~C. Protect aquatic habitats, wetlands, and fish and wildlife by avoiding or minimizing impacts that can result from landslides and erosion.~~
- ~~D. Maintain natural geological processes while protecting existing and new development.~~
- ~~E. Establish review procedures for development proposals in geologically hazardous areas.~~

**16.16.310 Designation, Mapping, and Classification.**

- A. **Designation.** Lands determined to be landslide, seismic, alluvial fan, volcanic, erosion (including channel migration zones), tsunami, seiche and landslide generated waves, or mine hazard areas are hereby designated as geologically hazardous areas. ~~Geologically hazardous areas are areas susceptible to erosion, landslides, earthquakes, volcanic activity, and/or other geological processes and which pose a significant risk to people and property. Incompatible development in these geologic hazard areas can put human life, safety, health, and development at risk, alter geologic processes, adversely affect natural resources, threaten public health and safety, and put the development and surrounding developments and uses at risk.~~
- B. **Mapping.** The approximate location and extent of known potential 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, and County review of development proposals. However, they do not provide a conclusive or definitive indication of geologically hazardous area presence or extent. Potential geologically hazardous areas may exist that do not appear on the maps, and some potential geologically hazardous areas that appear on the maps may not meet the geologically hazardous areas designation criteria. ~~geologically hazardous areas are shown on the County's critical areas maps. The County shall update the maps periodically as new hazard areas are identified and as new information becomes available and may require additional studies during the development review process to supplement and/or confirm the mapping.~~ This chapter does not imply that land outside mapped geologically hazardous areas or uses permitted within such areas will be without risk. This chapter shall not create liability on the part of Whatcom County or any officer or employee thereof for any damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.
- C. **Classification.** For purposes of this chapter, geologically hazardous areas shall include all of the following:
  - 1. **Landslide Hazard Areas.** Landslide hazard areas shall include areas potentially susceptible to landslides based on a combination of geologic, topographic, and hydrologic factors, as specified below. They include any areas susceptible to mass movement due to any combination of bedrock, soil, slope (gradient), slope aspect, slope form (concave, convex, planar), geological struc-

Commented [CAC62]: Follow-up: Our geohazards map will need to be amended so that the classes are the same.

1 ture, surface and subsurface hydrology, or other physical factors. Landslide hazard areas shall  
 2 also include areas along which landslide material may be routed or which may be subject to  
 3 deposition of landslide delivered material. Potential landslide hazard areas include but are not  
 4 limited to the following areas. Landslide hazard areas shall be further classified as follows:

- 5 a. **Potential Landslide Hazard Areas.** Potential landslide hazard areas exhibit one or more of  
 6 the following characteristics:
- 7 i. Areas designated as quaternary slumps, earth-flows, mudflows, or landslides on maps  
 8 published by the U.S. Geological Survey, Washington State Department of Natural Re-  
 9 sources, or other reputable sources. Slopes between 15 and 35 percent that have a  
 10 relatively permeable geologic unit overlying a relatively impermeable unit and have  
 11 springs or groundwater seeps;
  - 12 ii. Areas with all three (3) of the following characteristics:  
 13 a. Slopes steeper than ~~fifteen percent (15%)~~;  
 14 b. Hillside intersecting geologic contacts with a relatively permeable sediment over-  
 15 lying a relatively impermeable sediment or bedrock; and,  
 16 a-c. Springs or groundwater seepage;
  - 17 iii. Areas that have shown movement and/or are underlain or covered by mass wastage  
 18 debris. Areas that are at risk of mass wasting due to seismic forces;
  - 19 ~~ii.~~ iv. Potentially unstable slopes resulting from rapid river or stream incision, river or stream  
 20 bank erosion or undercutting by wave erosion action. These include slopes exceeding  
 21 10 feet in height adjacent to streams, lakes and coastal shorelines and with more than  
 22 a 35 percent gradient;
  - 23 ~~iii.~~ Areas that have shown evidence of historic failure or instability, including, but not lim-  
 24 ited to, back-rotated benches on slopes; areas with structures that exhibit structural  
 25 damage such as settling and racking of building foundations; and areas that have top-  
 26 pling, leaning, or bowed trees caused by ground surface movement;
  - 27 v. Slopes having gradients steeper than ~~eighty percent (80%)~~ subject to rock fall during  
 28 seismic shaking;
  - 29 ~~iv.~~ vi. Areas that show past sloughing or calving of bluff sediments or rocks resulting in a  
 30 steep slope that is poorly vegetated, resulting in a vertical or steep bluff face slope that  
 31 is poorly with little or no vegetated edge;
  - 32 ~~v.~~ vii. Slopes that are parallel or sub-parallel to planes of weakness (which may include but  
 33 not be limited to bedding planes, soft clay layers, joint systems, such as bedding  
 34 planes, joint systems, and fault planes) in subsurface materials;
  - 35 viii. Areas that show evidence of, or are at risk from snow avalanches. Slopes having gradi-  
 36 ents steeper than 80 percent subject to rock fall during seismic shaking;
  - 37 ix. Deep-seated landslide areas characterized by one or more of the following features:  
 38 scalloped ridge crests at the top of the slope, crescent shaped depressions, head  
 39 scarps, side scarps, ponds or sag areas on mid slopes, benches and scarps on mid  
 40 slope areas, hummocky ground, linear fractures in the ground. These features may be  
 41 evident in aerial images, topographic maps, LiDAR imagery or on the ground.
  - 42 x. Areas below unstable slopes or that have been identified as landslide hazard areas  
 43 that could be impacted by landslide run out;
  - 44 ~~vi.~~ xi. Areas above or adjacent to unstable slopes that could be impacted if the landslide ar-  
 45 ea expands;
  - 46 xii. Slopes exceeding 35 percent. Any area with a slope of ~~forty percent (40%)~~ or steeper  
 47 and with a vertical relief of ten (10) or more feet except areas composed of compe-

Commented [TAC63]: Dan says this is a better ways of identi-  
 fying landslide hazard areas.

tent bedrock or a properly engineered slopes designed and approved by a geotechnical engineer licensed in the state of Washington and experienced with the site;

~~vii-xiii. Areas within which land use activities could affect the slope stability of a landslide hazard area, including but not limited to areas with subsurface hydrologic flow, groundwater recharge areas and surface water flow; or~~

~~viii-xiv. Areas of historical landslide movement including coastal shoreline areas mapped by the Department of Ecology Coastal Zone Atlas or the Department of Natural Resources slope stability mapping as unstable ("U" or class 3), unstable old slides ("UOS" or class 4), or unstable recent slides ("URS" or class 5).~~

~~b. Active Landslide Hazard Areas. Active landslide hazard areas are areas that have been identified during a geological inspection as meeting the following criterion:~~

~~c. Areas that exhibit indicators noted in subsection (C)(1)(a) of this section that have been determined through geological assessment to be presently failing or very likely to fail in the near future.~~

~~b.~~

2. Seismic Hazard Areas. ~~Whatcom County is located in a seismically active area that will be subject to ground motion during local and regional earthquakes. Seismic hazards and risk are partially addressed in the International Building Code (IBC) or International Residential Code (IRC). Additional seismic hazard areas for the purpose of this chapter include: Seismic hazard areas shall include areas subject to a severe risk of earthquake damage as a result of seismically induced ground shaking, differential settlement, slope failure, settlement, lateral spreading, mass wasting, surface faulting, or soil liquefaction.~~

~~a. Areas designated as having a "high" and "moderate to high" risk of liquefaction susceptibility as mapped on the Liquefaction Susceptibility Map by the Washington State Department of Natural Resources.~~

~~b. Areas that are identified as underlain by liquefiable soils and due to local topography are also subject to or interpreted as being potentially impacted by lateral spreading.~~

~~d.c. Areas located within 500 feet of Quaternary fault zones with surface offsets.~~

3. Alluvial Fan Hazard Areas. ~~Any area located at the base of a confined mountain channel and determined to be susceptible to clear-water flooding, debris-laden flows and floods, and erosional impacts shall be designated as an alluvial fan hazard area. Watershed hydrology, geology, slope conditions, topography, current and historic land uses, roads and road drainage, valley bottom conditions, and channel conditions upstream of an alluvial fan area are all fundamental to potential hazards and risks on alluvial fans. Alluvial fan hazard areas shall include those areas on alluvial fans potentially impacted by:~~

~~a. Sediment laden flows (e.g., debris flows, and debris floods);~~

~~b. Clear water floods;~~

~~c. 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, Stream channel changes, (including channel avulsion, incision, aggradation or lateral erosion and migration); and, 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.~~

~~e.d. Erosion.~~

4. Volcanic Hazard Areas. ~~Volcanic hazard areas associated with Mount Baker shall include areas potentially subject to lava flows, pyroclastic flows, pyroclastic surges, mud flows, lahars, debris flows, debris avalanche, ash (tephra) clouds or ash (tephra) fall, lateral blast, ballistic debris, or flooding resulting from volcanic activity. Lahars, mud flows, and debris avalanches can also oc-~~

Commented [TAC64]: The UBC should cover typical seismic hazards for structures based on the classification of the area. Liquefaction areas and surface faults are called out as separate areas due to the higher hazard at those locations.

Commented [TAC65]: Follow-up: Same areas as liquefaction areas, but need to add language to map to include this.

Commented [TAC66]: Follow-up: Need to map these.

Commented [TAC67]: Two areas of quaternary fault surface ruptures have been identified in Whatcom County: one near Maple Falls and another east southeast of Blaine.

1 cur without volcanic activity. Volcanic hazard areas are those areas that have been affected, or  
2 have the potential to be affected, by pyroclastic flows, pyroclastic surges, lava flows, or ballistic  
3 projectiles, ash and tephra fall, volcanic gases, and volcanic landslides. Also included are areas  
4 that have been or have the potential to be affected by Case M, Case I, or Case II lahars, or by  
5 debris flows or sediment-laden events originating from the volcano or its associated deposits. In  
6 addition, volcanic hazards include secondary effects such as sedimentation and flooding due to  
7 the loss of flood conveyance as a result of river channel and flood plain aggradation. The impli-  
8 cations of secondary effects may be observed at some distance from the initiating event, and  
9 may continue to impact affected drainages over many decades following the initiating event.  
10 Secondary effects may significantly alter existing stream and river channels, associated channel  
11 migration zones and floodplains due to stream and river bed aggradation and channel avulsion.  
12 Volcanic hazards include areas that have not been affected recently, but could be affected by fu-  
13 ture events. Volcanic hazard areas are classified into the following categories:

- 14 a. **Pyroclastic Flow Hazard Areas.** Areas that could be affected by pyroclastic flows, pyroclas-  
15 tic surges, lava flows, and ballistic projectiles in future eruptions. During any single eruption  
16 some drainages may be unaffected by any of these phenomena, while other drainages are  
17 affected by some or all phenomena. Recurrence interval is not known.
- 18 b. **Ash/Tephra fall Hazard Areas.** The location of ash/tephra fall hazards at Mt. Baker is pre-  
19 dominantly controlled by the prevailing, westerly winds observed on the west coast of  
20 North America. However, easterly winds do occur in the region and direct ash/tephra fall  
21 impacts to Whatcom County population centers are certainly a possibility. Health hazards,  
22 power outages, negative impacts to machinery and aircraft, structural damage (e.g. roof col-  
23 lapse) and extensive disruption of daily activities are all potential hazards.
- 24 c. **Lateral Blast Hazard Areas.** Lateral blast hazards result from low-angle, explosive volcanic  
25 eruptions that emanate from the flank of a volcano. The occurrence of a lateral blast is  
26 largely unpredictable, both with respect to timing and direction, and does not appear to be  
27 a common feature of eruptive activity at Mt. Baker, or at other volcanoes globally. Extensive  
28 destruction is likely within the lateral blast zone, and mitigation is generally considered  
29 unachievable.
- 30 d. **Volcanic Landslide Hazard Areas.** Landslides are common on volcanoes due to their relative  
31 height, steepness, and weakness in both the underlying bedrock and the volcanic deposits  
32 due to magma movement and chemical weathering. Landslides size is highly variable de-  
33 pending on site conditions and type, but may achieve high velocity and momentum which  
34 can carry a landslide across valleys and ridgelines. Given the range of possible landslide  
35 types and sizes, specific hazards, risk zones and recurrence interval have not been delineat-  
36 ed at Mount Baker. Volcanic landslide hazards are associated with lahar hazards as they  
37 pose the potential to generate small to large-scale cohesive lahars.
- 38 e. **Lahar Hazard Areas.**
- 39 i. **Case M Lahar Hazard Areas.** Areas that could be affected by cohesive lahars that origi-  
40 nate as enormous avalanches of weak, chemically-altered rock from the volcano. Case  
41 M lahars can occur with or without eruptive activity. A single, post-glacial, Case M Lahar  
42 deposit is known to have traveled down the Middle Fork Nooksack River, and is postu-  
43 lated to have continued down the main stem of the Nooksack River, eventually reaching  
44 Bellingham Bay and to have also flowed north to Canada along the pre-historic path of  
45 the Nooksack River. Case M Lahars are thus interpreted to pose a threat to the Sumas  
46 River drainage due to the potential for bed aggradation and channel avulsion to overtop  
47 the low-lying drainage divide that exists between the Nooksack and Sumas River drain-  
48 ages. Case M Lahars are considered high consequence, low-probability events.

1 ii. **Case I Lahar Hazard Areas.** Areas that could be affected by relatively large non-cohesive  
 2 lahars, which most commonly are caused by the melting of snow and glacier ice by  
 3 magmatic activity and associated processes, but which can also have a non-eruptive  
 4 origin. The average recurrence interval for Case I Lahars, based on deposits identified  
 5 along the flanks of Mount Baker, is postulated to be 500 years, or greater. However, re-  
 6 newed magmatic activity at Mount Baker would be indicative of greatly increased po-  
 7 tential for Case I Lahar generation; this may reduce the recurrence interval to approxi-  
 8 mate that of Case II Lahars.

9 iii. **Case II Lahar Hazard Areas.** Areas that could be affected by moderately large debris ava-  
 10 lanches or small cohesive lahars, or other types of debris flow, generated on the east  
 11 flank of Mount Baker at Sherman Crater or the upper Avalanche Gorge. Case II Lahars  
 12 impact the Baker Lake basin and drainage, and are considered correlative to Case I La-  
 13 hars that may impact the primary drainages on the west and north of Mount Baker, but  
 14 with increased frequency and comparable volume. The postulated recurrence interval  
 15 for Case II Lahars at Mount Baker is less than 100 years.

16 **2-4. Erosion Hazard Areas.** Erosion hazard areas shall include:

- 17 a. **Channel migration zones, also known as riverine erosion areas,** are defined as the areas  
 18 along a river or stream within which the channel(s) can be reasonably predicted to migrate  
 19 over time. This is a result of natural and normally occurring geomorphic, hydrological, and  
 20 related processes when considered with the characteristics of the river or stream and its  
 21 surroundings, and in consideration of river and stream management plans. Channel migra-  
 22 tion hazard areas shall include: potential channel migration, channel avulsion, bank erosion,  
 23 and stability of slopes along the river or stream; surface erosion areas, which are slopes  
 24 greater than 15 percent with soils identified by the Natural Resources Conservation Service  
 25 as having a "severe" or "very severe" rill and inter-rill erosion hazard because of natural  
 26 characteristics, including vegetative cover, soil texture, slope, gradient, and rainfall patterns;  
 27 or human induced changes to natural characteristics; and
- 28 b. **Coastal and riverine erosion areas** that, which are subject to impacts from lateral erosion re-  
 29 lated to moving water such as river channel migration and shoreline retreat from wind,  
 30 wave, and tidal erosion. This includes the channel migration zone (CMZ) and the anticipated  
 31 slope/ bank failures and landward retreat resulting from erosion and erosion along other  
 32 features that concentrate surface water flows; provided, that channel migration zones apply  
 33 only to those watercourses where detailed CMZ studies have been completed. Areas that  
 34 are identified as potential channel migration hazards based on sound scientific evidence, but  
 35 which are pending further study, may be designated by the County Council as interim chan-  
 36 nel migration zones until such studies are complete. Additional CMZs may be regulated as  
 37 erosion hazard areas as new information becomes available, accepted and adopted by  
 38 Whatcom County.

**Commented [TAC68]:** The risk of erosion from development proposals should be and is addressed under clearing and grading regulations, stormwater plans, regulations for special watershed management areas as well as farm plans and agricultural practices. Erosion of surface soils is best addressed in those areas.

39 **5. ~~Tsunami and Seiche Hazard Areas.~~** ~~Tsunami and seiche~~ hazard areas shall include coastal areas  
 40 and lake shoreline areas susceptible to flooding, inundation, debris impact, and/or mass wasting  
 41 as the result of a ~~tsunami coastal or inland wave action~~ migration generated by seismic events.

**Commented [CAC69]:** Follow-up: Would it be possible to map the areas north of Sandy Point? Andy says DNR maps don't include those areas (e.g., Birch Bay, Pt. Roberts, etc.)

42 **3-6. Seiche and Landslide Generated Wave Hazard Areas.** Seiche and landslide generated wave haz-  
 43 ard areas include lake and marine shoreline areas susceptible to flooding, inundation, debris im-  
 44 pact, and/or mass wasting as the result of a seiche or landslide generated waves. No known  
 45 Best Available Science is currently available to characterize potential seiche hazards in Whatcom  
 46 County.

**Commented [CAC70]:** Spit into 2 subsections.

47 **4-7. Mine Hazard Areas.** Mine hazard areas shall include those lands in proximity to abandoned ~~coal~~  
 48 mines and associated underground mine workings where mine workings are less than 200 feet

below ground level. Mine workings include adits (mine entrances), gangways (haulage tunnels), rooms and chutes (large voids), drifts (~~water level tunnels~~), pillars (~~coal rock~~ left for support) and air shafts. Mine hazards include subsidence, which is the uneven downward movement of the ground surface caused by underground workings caving in; sink holes; contamination of ground and surface water from tailings and underground workings; concentrations of lethal or noxious gases; and underground mine fires.

**16.16.320 Geologically Hazardous Areas – General Standards.**

~~In addition to the applicable general protective measures found in WWC 16.16.265,~~ the following requirements shall apply to all activities in geologically hazardous areas:

- A. ~~Generally, Allowed-New~~ developments shall be located and/or engineered and/or constructed to reduce risks to life, health, and safety, and buildings, and not increase potential for landslides or erosion that could impact either other properties, public resources, or other critical areas. ~~The County may impose conditions on development activity in a geologically hazardous area as needed to: and occupants from the hazard, and to avoid or compensate for impacts to other critical areas such as wetlands and habitat conservation areas.~~
  1. Protect human life and safety; and
  2. Minimize the potential for property damage related to seismic events, erosion and/or landslides;
  3. Minimize the need for stream or river bank or coastal bluff stabilization in the future;
  4. Reduce public liabilities for damages associated with geologic hazards.
  5. Protect slope stability and minimize erosion, seismic, and/or landslide hazard risks;
  6. Maintain natural sediment and erosion processes that are integral to the health and sustainability of freshwater and marine ecosystems as well as minimizing impacts to stream, river, and coastal processes such as channel infill, channel migration, sediment transport, or flooding;
- B. **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 and appurtenant, driveways and other features; altering the configuration or layout of the proposed development; implementing special engineering methods for construction, drainage, runoff management etc.; foregoing construction of accessory structures; preserving native vegetation; and other feasible protective measures as determined by an alternatives analysis. For some geologic hazards (except for lahar hazards) impact avoidance may mean no development will be permitted on a property. So long as an applicant complies with WCC 16.16.350(B), the County shall not require lahar hazard impact avoidance measures that reduce the number, size, or scale of buildings or appurtenant features; or prevent uses otherwise allowed per the property’s zoning district based solely on the property’s location within a lahar hazard zone.
- C. **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 (except for lahar hazards) and/or are outside any setback or buffer established by this Chapter.
- D. **Critical Facilities Prohibited.** Critical facilities as defined in WCC 16.16.800 shall not be constructed or located in geologically hazardous areas if there is a feasible alternative location outside geologically hazardous areas that would serve the intended service population. If allowed, the critical facility shall be designed and operated to minimize the risk and danger to public health and safety to the maximum extent practicable.
- E. **Review by Qualified Professional.** A ~~qualified professional geologist or other qualified professional geotechnical engineer,~~ licensed in the State of Washington, shall review ~~projects development proposals that occur in potentially geologically hazardous areas to ensure that they are properly designed and constructed as provided for in WCC 16.16.225 determine the potential risk. If develop-~~

**Commented [TAC71]:** Have rearranged and added new standards to this section making what’s required more clear, though policies are not changing.

1 ment takes place within an identified geologically hazardous area requiring design or structural ele-  
 2 ments to ~~mitigate~~ minimize the hazard, the ~~design~~ mitigation shall be ~~approved~~ designed by a quali-  
 3 ified professional geotechnical engineer licensed in the State of Washington with expertise in mitiga-  
 4 tion of geological hazards.

5 **F. Life of Structure.** Proposed development shall be sited far enough from erosion and landslide haz-  
 6 ard areas to ensure at least one hundred (100) years of useful life for the proposed structure(s) or  
 7 infrastructure. The location should be determined by a geologist or other qualified professional ~~qual-~~  
 8 ified geologist or engineering geologist, licensed in the State of Washington and be should be based  
 9 on site specific evaluation of the landslide and/or erosion hazard.

10 **G. Remodels and Additions.** Any proposed remodel or addition to an existing permitted or non-  
 11 conforming structure that exceeds a valuation of greater than 50% ~~percent~~ of the fair market value  
 12 shall be required to ensure that the entire structure is improved in accordance with all Article 3 re-  
 13 quirements.

14 ~~A. Alterations shall be directed toward portions of parcels or parcels under contiguous ownership that~~  
 15 ~~are not subject to, or at risk from, geologic hazards and/or are outside any associated buffer estab-~~  
 16 ~~lished by this article.~~

17 **B-H. Agricultural Activities.** Agricultural activities (~~uses and structures~~) may be allowed within geo-  
 18 logically hazardous areas without a conservation farm plan as long as the activity does not increase  
 19 the potential for landslides, channel migration, or alluvial fan hazards on or off the site; except, that  
 20 a conservation farm plan shall be required for agricultural activities within landslide hazard areas  
 21 and associated ~~buffers~~ landslide hazard area setbacks (WCC 16.16.325(C)).

22 **C-I. Land Subdivision.** Land that is located wholly within a landslide hazard area, riverine or coastal ero-  
 23 sion hazard area, alluvial fan hazard area, lahar hazard area, or mine hazard area or its buffer may  
 24 not be subdivided to create buildable parcels entirely within the hazardous area. Land that is located  
 25 partially within a hazard area or its buffer setback may be divided provided that each resulting lot  
 26 has sufficient buildable area outside of the hazardous area with provision for drainage, erosion control  
 27 and related features that will not adversely affect the hazard area or its buffer setback.

28 ~~D. Surface erosion hazards will be regulated under WCC 20.80.730, Land clearing.~~

29 **16.16.325 Landslide Hazard Areas – Standards – ~~Landslide hazard areas.~~**

30 **A. General Standards.** The following activities may be allowed in active landslide hazards areas when  
 31 all reasonable measures have been taken to minimize risks and other adverse effects associated  
 32 with landslide hazards, and when the amount and degree of the alteration are limited to the mini-  
 33 mum needed to accomplish the project purpose:

- 34 1. Developments that ~~will have not increase the threat to the health or safety of people and will~~  
 35 ~~not increase potential for landslides on or off the site and~~ meet the reasonable use standards as  
 36 set forth in WCC 16.16.270.
- 37 2. Utility lines and pipes that are above-ground, properly anchored and/or designed so that they  
 38 will continue to function in the event of a slope failure or movement of the underlying materials  
 39 and will not increase the risk or consequences of static or seismic slope instability or result in a  
 40 risk of mass wasting. Such utility lines may be permitted only when the applicant demonstrates  
 41 that no other feasible alternative is available to serve the affected population.
- 42 3. Access roads and trails that are engineered and built to standards that ~~avoid minimize~~ the need  
 43 for major repair or reconstruction beyond that which would be required in non-hazard areas.  
 44 Access roads and trails may be permitted only if the applicant demonstrates that no other feasi-  
 45 ble alternative exists, including through the provisions of Chapter 8.24 RCW. If such access  
 46 through critical areas is granted, exceptions or deviations from technical standards for width or

other dimensions and specific construction standards to minimize impacts, including drainage and drainage maintenance plans, may be required specified.

4. 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.

B. ~~16.16.330 Standards~~ **Landslide Hazard Management Zone Standards**. Alteration may be allowed within 300 feet of an active landslide hazard area when the technical administrator determines that the following standards are met:

1. The proposed alteration includes all appropriate measures to avoid, eliminate, reduce, or otherwise mitigate risks to health and safety.
2. The proposed alteration is located outside of an ~~active~~ landslide hazard area and any required setback buffer, as set forth in WCC 16.16.335.
3. The development will not decrease slope stability on adjacent properties. The development shall not increase the risk or frequency of landslide occurrences.
4. The removal and disturbance of vegetation, clearing, or grading shall be limited to the area of the approved development.
5. The development is outside of the area of potential upslope or downslope surface movement or potential deposition in the event of a slope failure.
6. The development will not increase or concentrate surface water discharge or sedimentation to adjacent properties beyond predevelopment conditions.
7. The proposed alterations will not adversely impact other critical areas.
8. Structures and improvements shall minimize alterations to the slope contour, and shall be designed to minimize impervious lot coverage unless such alterations or impervious surfaces are needed to maintain slope stability.

C. ~~16.16.335 Standards~~ **Landslide Hazard Area Setbacks buffers**. In addition to the applicable general protective measures found in WCC 16.16.265, ~~the~~ technical administrator shall have the authority to have the authority to require setbacks buffers from the edges of any identified active landslide hazard area in accordance with the following:

1. The size of the setback buffer shall be based on the findings of a qualified professional and shall protect critical areas and minimize the risk of property damage, death, or injury resulting from landslides both on and off the property caused in whole or part by the development.
2. The setback buffer shall include consideration of the uphill hydrologic contribution area to the potential landslide area and/or the area subject to the potential for mass movement, and the downhill area subject to potential deposition.
3. The setback buffer shall include consideration of vegetation on the potential landslide area and in areas above and below the potential landslide area ~~woody vegetation adequate to stabilize the soil and prevent soil movement. If the designated buffer area lacks adequate woody vegetation, the~~ technical administrator shall have the authority to require vegetation or other measures to protect or improve slope stability and shall have the authority to require a mitigation plan developed in accordance with 16.16.260, and a conservation easement in accordance with WCC 16.16.265(C) to ensure appropriate vegetation improvements are installed, maintained, and preserved.
4. Developments on sites that are directly adjacent to a wetland, marine shoreline, or other habitat conservation area as defined in Article 7 of this chapter may be subject to additional buffer requirements and standards as set forth in the subsequent articles of this chapter.

Commented [TAC72]: Combined 3 landslide hazard standards into one section.

Commented [TAC73]: Was suggested that "buffer" isn't the appropriate term for this safety area, as buffers for other critical areas are intended to protect its critical area. For geohazards, we're trying to protect life and property; thus, it's more of a safety setback.

**16.16.340 Standards— Seismic Hazard Areas – Standards.**

Development may be allowed in seismic hazard areas when all of the following apply:

- A. Structures in seismic hazard areas shall conform to applicable analysis and design criteria of the International Building Code.
- B. Public roads, bridges, utilities, and trails shall be allowed when there are no feasible alternative locations and geotechnical analysis and design are provided that ensure the minimize potential damage to roadway, bridge, and utility structures and facilities will not be susceptible to damage from seismically induced ground deformation. Mitigation measures shall be designed in accordance with the most recent version of the American Association of State Highway and Transportation Officials (AASHTO) Manual or other appropriate document.

**16.16.345 Standards— Alluvial Fan Hazard Areas – Standards.**

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 project purpose, and when the applicable general protective measures found in WWC 16.16.265 have been applied:

- A. Developments that will have no minimize the threat to the health or safety of people and will not increase the risks of alluvial fan hazards on or off the site and meet the reasonable use standards as set forth in WCC 16.16.270.
- B. Roads, utilities, bridges, and other infrastructure ~~when that are~~ located and designed to prevent minimize 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.
- C. Permanent residential structures and commercial developments shall be allowed in alluvial fan hazard areas only if the fan has undergone a County-approved study to assess potential hazards, determine risks, and identify mitigation measures and is deemed suitable for development. The technical administrator shall make this determination based on a detailed assessment by a qualified professional that identifies the risks associated with a 500-year return period debris flow or the maximum credible event that could impact the alluvial fan.
- D. Accessory structures not involving human occupancy shall be allowed as long as the structure will not increase the alluvial fan hazards on or off the site.

**16.16.350 Standards— Volcanic Hazard Areas – Standards.**

~~Development may be allowed in volcanic hazard areas; provided, that all reasonable measures have been taken to minimize risks and other adverse effects associated with volcanic hazards, and when the amount and degree of the alteration are limited to the minimum needed to accomplish the project purpose, and when the applicable general protective measures found in WWC 16.16.265 and the standards of 16.16.320 have been applied.~~

~~A. For lahar inundation zones, the following activities shall may be allowed as specified under the conditions specified:~~

- ~~1. Developments Permitted and administratively approved uses allowed in accordance with the zoning that will have no threat to the health or safety of people and that are designed to minimize the will not increase the risks of volcanic hazards at adjacent and downstream properties, provided that there are no more than 6 employees on site on or off the site and meet the reasonable use or variance standards and procedures as set forth in WCC 16.16.270. Sewer collection facilities and other utilities that are located underground and not likely to cause harm to people or the environment if inundated by a lahar.~~

**Commented [CES74]:** Language was unclear. Section A seems to allow most development, but this section limited it to that which meets the RU or V criteria, and the RU is used only for SFR (which is/was already addressed by 5). Seems to staff that the intent isn't to prohibit additional development in Glacier, etc., but rather to limit risk by limiting occupancy.

- 2. ~~Critical facilities, as defined in subsection 1 of "critical facilities," Article 8 of this chapter, of 50 or more fewer persons may be permitted within lahar inundation zones subject to the conditional use permit requirements of Chapter 20.84 WCC; provided, that the following criteria are also met:~~
  - i. ~~The applicant demonstrates through submittal of a travel time analysis prepared by a qualified professional or local, state, or federal agency the amount of time that is anticipated for a lahar to reach the proposed project and evacuation route, together with a description of existing or proposed detection and notification systems to be installed and maintained by a public entity.~~
  - ii. ~~The applicant has provided an emergency evacuation plan prepared by a qualified professional or local, state, or federal agency showing that the proposed project is located near directly adjacent to a safety zone that is within walking distance in an amount of time less than the anticipated time that it takes a lahar to reach the site after the triggering of an alarm and notification.~~
- 3. ~~Accessory structures not involving human occupancy shall be allowed.~~
- 4. ~~Single family developments and duplexes may be permitted in lahar hazard areas subject to WCC 16.16.320(A).~~

A. Ash/Tephra Fall and Lateral Blast Hazard Areas. Development may be allowed in these areas; provided, that all reasonable measures have been taken to minimize risks and adverse effects, and when the amount and degree of the alteration is limited to the minimum needed to accomplish the project purpose, and when the applicable general protective measures found in WWC 16.16.265 and the standards of 16.16.320 have been applied.

A.B. Lahar Hazard Zones.

- 1. Subject to WCC 16.16.320(A, B, and C) and WCC 16.16.265, the following uses are allowed in any volcanic hazard areas:
  - a. Single-family residences and duplexes.
  - b. Accessory structures not involving human occupancy.
  - c. Sewer collection facilities, communication facilities, and other utilities that are not likely to cause harm to people or the environment if inundated by a lahar. Underground utilities such as pipelines shall be allowed if demonstrated through a geotechnical analysis to be sufficiently buried as to not likely be damaged by scour caused by a lahar.
  - d. Agricultural and forestry uses not including human habitation.
- 2. Subject to WCC 16.16.320(A, B, and C) and WCC 16.16.265 (except subsection (D) when located wholly within a lahar hazard zone), the following uses are allowed in volcanic hazard areas subject to the submittal and approval of a Volcanic Hazard Emergency Management Plan meeting the requirements of subsection (B)(3); however, this requirement may be waived for properties located in an area with an estimated lahar arrival time of more than 60 minutes. The County will maintain travel time projection maps to estimate lahar approach times.
  - a. Expansion of legal nonconforming uses meeting criteria of WCC 16.16.275 and WCC 20.83.
  - b. All other uses allowed per the property's zoning district.
- 3. Where required by subsection (B)(2), a Volcanic Hazard Emergency Management Plan shall be submitted for approval and meet the following requirements:
  - a. Is consistent with and integrated into a community emergency plan maintained by the Sheriff's Office of Emergency Management.
  - b. Includes an emergency evacuation plan.
  - c. Is required to be updated every 5 years.
  - d. Evacuation route maps must be posted on the premises.

Commented [CES75]: Redundant with the amended subsection 1.

1 Generally speaking, the severity of lahar hazards decrease with distance from the volcanic source, alt-  
 2 hough consequences may increase due to greater development density farther from the mountain. Dis-  
 3 tance also allows additional time to implement evacuation procedures and other emergency prepared-  
 4 ness measures. Some municipalities have tailored their volcanic hazard codes based on the ability to  
 5 evacuate people from within a lahar hazard area, on distance from the source event (i.e., those areas  
 6 closest to the event will have less time to evacuate than those areas farther away from the source of an  
 7 event), and on the amount of time necessary to conduct evacuation following public notification (such  
 8 as via an acoustical flow monitoring alarm system) that a lahar has occurred. In Whatcom County a lahar  
 9 warning system does not exist, nor do detailed, peer reviewed lahar inundation and velocity models or  
 10 travel time analyses. For these reasons the following Lahar Hazard Zones, which also apply to pyroclastic  
 11 flow hazards, have been devised for the purpose of enacting prudent development regulations. These  
 12 Lahar Hazard Zones, also graphically shown on the County's Geologic Hazards Map, are generally based  
 13 on the assumption that detrimental impacts will decrease with distance from the source event, as well  
 14 as in consideration of regional topography, published lahar recurrence intervals, and, to a lesser extent,  
 15 conservative lahar travel time estimates:

16 — **Lahar Hazard Zone A** — Includes all areas immediately surrounding the base of Mount Baker that  
 17 may be impacted by Case M and Case I Lahars as well as those areas potentially impacted by pyro-  
 18 clastic and lava flows. Also includes all areas impacted by Case II Lahars on the east side of the  
 19 Mount Baker including the area immediately surrounding Baker Laker and Lake Shannon that may  
 20 be impacted by debris flow generated tsunamis or by the subsequent seiche. Lateral Blast hazards,  
 21 while destructive, are considered to be rare events and are therefore regulated pursuant to WCC  
 22 16.16.350(A).

23 — **Lahar Hazard Zone B** — Includes all areas impacted by Case M and Case I Lahars that are located  
 24 within 1 hour travel time distance from the source event. Effectively this includes all areas upstream  
 25 of the State Route 542 Bridge over the Nooksack River at Nugent's Corner, extending up the Middle  
 26 Fork Nooksack River to the Mosquito Lake Road Bridge and up the North Fork Nooksack River to,  
 27 and including, the community of Glacier. Areas upstream of these locations are considered in Vol-  
 28 canic Hazard Zone A.

29 — **Lahar Hazard Zone C** — Includes all areas that may be impacted by Case M and Case I Lahars down-  
 30 stream of the State Route 542 Bridge over the Nooksack River at Nugent's Corner and extending  
 31 downstream to Everson, as well as within the Sumas River Drainage for a correlative distance ap-  
 32 proximated by a 1.5 hour travel time distance from the source event.

33 — **Lahar Hazard Zone D** — Includes all areas that may be impacted by Case M and Case I Lahars down-  
 34 stream of Everson and extending to Bellingham Bay, as well as the area beyond the 1.5 hour travel  
 35 time distance in the Sumas Drainage and extending to the Canadian Border. Recognizing that haz-  
 36 ards associated with a lahar, such as large volumes of debris and sediment, may differ substantially  
 37 from that which is present during a clear water flood, for the purposes of regulating development,  
 38 the extent and severity of hazards in Zone D are considered commensurate with that of a 500-year  
 39 flood, and development in these areas shall meet the requirements of Article 4, Frequently Flooded  
 40 Areas.

41 — **Lahar Hazard Zone Regulations.** The use regulations shown in Table 1 shall apply within the indicat-  
 42 ed Lahar Hazard Zones.

43 — **Technical Assessment and Review.** In zones A & B, any project proposing a maximum occupant load  
 44 greater than 25 shall be required to have a volcanic hazards assessment prepared by a qualified pro-  
 45 fessional that includes recommendations for siting of improvements intending to avoid volcanic  
 46 hazards and a volcanic hazard management and evacuation plan. In addition, the technical adminis-  
 47 trator shall have the authority to require such assessment for any project deemed subject to an ele-  
 48 vated risk from volcanic hazards.

1 ~~Table 1. Volcanic Hazard Zone Standards~~

Facility/Occupancy List <sup>1</sup>	Use Allowances and Maximum Occupancies <sup>2</sup>			
	Lahar Hazard Zone			
	A	B	C	D
<del>Essential Facilities</del>	<del>Prohibited</del>	<del>Prohibited</del>	<del>Allowed, subject to underlying zoning, but shall meet the requirements of 16.16.260 and 265.</del>	<del>Allowed, subject to underlying zoning</del>
<del>Hazardous Facilities</del>	<del>Prohibited</del>	<del>Prohibited</del>	<del>Allowed, subject to underlying zoning, but shall meet the requirements of 16.16.260 and 265.</del>	<del>Allowed, subject to underlying zoning</del>
<del>Special Occupancies</del>	<del>Prohibited</del>	<del>Allowed, subject to underlying zoning, with a maximum occupancy of 100.</del>	<del>Allowed, subject to underlying zoning, but shall meet the requirements of 16.16.260 and 265.</del>	<del>Allowed, subject to underlying zoning</del>
<del>Covered Assemblies</del>	<del>Prohibited</del>	<del>Allowed, subject to underlying zoning, with a maximum occupancy of 100.</del>	<del>Allowed, subject to underlying zoning, but shall meet the requirements of 16.16.260 and 265.</del>	<del>Allowed, subject to underlying zoning</del>
<del>All other uses allowed by Title 20, Zoning</del>	<del>Within the Glacier LAMIRD—All other uses allowed by Title 20, with a maximum occupancy of 25. Outside the Glacier LAMIRD—Limited to single family residences and their accessory structures</del>	<del>All other uses allowed by Title 20, with a maximum occupancy of 100.</del>	<del>Allowed, subject to underlying zoning, but shall meet the requirements of 16.16.260 and 265.</del>	<del>Allowed, subject to underlying zoning</del>

<sup>1</sup> See Article 9 for definitions of these facilities.

<sup>2</sup> Maximum occupancies listed here may be increased per WCC 16.16.350(D).

1 **16.16.355 Standards—Erosion Hazard Areas – Standards.**

- 2 A. **General Standards.** Development shall be allowed in erosion hazard areas; provided, that all rea-  
 3 sonable measures have been taken to minimize risks and other adverse effects associated with ero-  
 4 sion hazards, and when the amount and degree of the alteration are limited to the minimum need-  
 5 ed to accomplish the project purpose. For coastal, and riverine, and stream erosion hazard areas,  
 6 the following activities shall be allowed when the applicable general protective measures found in  
 7 WCC 16.16.265 have been applied and as follows specified:
- 8 1. Developments that will have no minimize the threat to the health or safety of people and will  
 9 not increase the risks of alluvial fan erosion hazards on or off the site and meet the reasonable  
 10 use or variance standards as set forth in WCC 16.16.270 or 16.16.273 respectively.
  - 11 2. Discharge of surface water drainage into a coastal or riverine erosion hazard area, provided  
 12 there are no other alternatives for discharge, and the drainage is collected upland of the top of  
 13 the active erosion hazard area and directed downhill in an appropriately designed stormwater  
 14 pipe that includes an energy dissipating device at the base of the hazard area. The pipe shall be  
 15 located on the surface of the ground and be properly anchored so that it will continue to func-  
 16 tion under erosion conditions and not create or contribute to adverse effects on downslope crit-  
 17 ical areas. The number of pipes should be minimized along the slope frontage.
  - 18 3. Stormwater retention and detention systems, such as dry wells and infiltration systems utilizing  
 19 using buried pipe or French drains, provided they are located outside the identified channel mi-  
 20 gration zone, designed by a qualified professional and shall not affect the stability of the site.
  - 21 4. Utility lines when no feasible conveyance alternative is available. The line shall be located above  
 22 ground and properly anchored and/or designed so that it will not preclude or interfere with  
 23 channel migration and will continue to function under erosion conditions; provided, that utility  
 24 lines may be located within channel migration zones if they are buried below the scour depth  
 25 for the entire width of the CMZ.
  - 26 5. Public roads, bridges, and trails when no feasible alternative alignment is available. Facilities  
 27 shall be designed such that the roadway prism and/or bridge structure will not be susceptible to  
 28 damage from active erosion.
  - 29 6. Access to private development sites may be allowed to provide access to portions of the site  
 30 that are not critical areas, if there are no feasible alternative alignments. Alternative access shall  
 31 be pursued to the maximum extent feasible, including through the provisions of Chapter 8.24  
 32 RCW. Exceptions or deviations from technical standards for width or other dimensions, and spec-  
 33 ific construction standards to minimize impacts may be specified.
  - 34 7. Stream bank stabilization and shoreline protection may be permitted subject to all of the follow-  
 35 ing standards:
    - 36 i. Shoreline protection measures located within coastal or riverine erosion areas shall use soft  
 37 armoring techniques (bioengineering erosion control measures as identified by the State  
 38 Department of Ecology and the Department of Fish and Wildlife guidance) unless the appli-  
 39 cant provides a geotechnical analysis demonstrating that bioengineering approaches will not  
 40 adequately protect the property.
    - 41 ii. The armoring shall not increase erosion on adjacent properties and shall not eliminate or  
 42 reduce sediment supply from feeder bluffs.
    - 43 iii. The armoring will not adversely affect critical areas including habitat conservation areas or  
 44 mitigation will be provided to compensate for adverse effects where avoidance is not feasi-  
 45 ble.
    - 46 iv. The proposal shall comply with WCC Title 23.
    - 47 v. Hard bank armoring is discouraged and may occur only when the property contains an exist-  
 48 ing permanent structure(s) that is in danger from shoreline erosion caused by wave action

Commented [CAC76]: Standard erosion areas have been removed, relying instead on stormwater and other regulations to address, this, this sentence is not needed.

- or riverine processes and not erosion caused by upland conditions, such as the alteration of natural vegetation or drainage, and the armoring shall not increase erosion on adjacent properties and shall not eliminate or reduce sediment supply.
- vi. The erosion is not being caused by upland conditions, such as the removal of vegetation or human alteration of existing drainage.
- vii. Nonstructural measures, such as placing or relocating the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.

- 8. New residences shall be located outside ~~identified-of~~ channel migration hazard areas or marine shoreline retreat areas. Accessory structures not involving human occupancy with a footprint equal to or less than 2,500 square feet shall be allowed; provided, that they are located at the outer edge of the migration zone as defined by this chapter; and provided, that the technical administrator may allow larger accessory structures where mitigating measures are feasible and provided for by the applicant.
- 9. New public flood protection measures and expansion of existing ones may be permitted, subject to WCC Title 17, Article 4 of this chapter, and a state hydraulic project approval; provided, that bioengineering or soft armoring techniques shall be used where feasible. Hard bank armoring may occur only in situations where soft approaches do not provide adequate protection.

B. ~~16.16.360 Standards—Erosion Hazard Area~~ Setback buffers. ~~In addition to the applicable general protective measures found in WWC 16.16.265,~~ the technical administrator shall have the authority to require setback buffers from the edges of any coastal, stream, or riverine hazard erosion area in accordance with the following:

- 1. The size of the setback buffer shall be based on the findings of a qualified professional and shall protect critical areas and processes and minimize the risk of property damage, death or injury resulting from erosion ~~caused in whole or in part by the development or that the development may be subject to~~ over the life of the development, typically identified as 100 years.
- 2. The ~~buffer setback~~ 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.
- 3. The setback buffer shall include woody vegetation adequate to stabilize the soil and prevent soil movement. If the designated ~~setback buffer~~ area lacks adequate woody vegetation, the technical administrator shall have the authority to require vegetation enhancement or other measures to improve slope stability.
- 4. Developments on sites that are directly adjacent to a wetland or marine shoreline or other habitat conservation area as defined in Article 7 of this chapter may be subject to additional setback buffer requirements and standards as set forth in the subsequent articles of this chapter.

~~16.16.365 Standards—Tsunami and seiche Hazard Areas –Standards.~~

The standards of WCC ~~16.16.320 and 16.16.350~~ shall apply. For development within tsunami hazard areas the proposed development shall be designed to provide protection from the tsunami hazard that meets the projected hazard on the Department of Natural Resources Tsunami Inundation Maps. For other low lying coastal areas not included on the inundation maps, development shall be designed to provide protection for debris impact and an inundation as determined by current Department of Natural Resource modeling of 10 feet above mean high tide unless other measures can be shown to provide equal or greater protection.

Commented [NRS77]: Allows flexibility for current BAS

16.16.367 Seiche and Landslide Generated Wave Hazard Areas – Standards.

Standards for seiche and landslide generated wave hazards will only apply if the hazard area is mapped by the United States Geologic Survey or the Department of Natural Resources, Division of Geology and

1 Earth Resources or other credible source approved by Whatcom County. If a mapped hazard is present,  
 2 the standards of WCC 16.16.320 and 16.16.350 shall apply. For residential development within a  
 3 mapped seiche and landslide generated wave hazard areas, the proposed development should be de-  
 4 signed to withstand the mapped hazard. If the risk of the event is less than 0.1% on a yearly basis, de-  
 5 velopment standards may not be required, but notice on property title will be required.

6 **16.16.370 Standards— Mine Hazard Areas – Standards.**

7 The standards of WCC 16.16.320 and 16.16.350(D) shall apply.

8 **16.16.375 Review and Reporting Requirements.**

- 9 A. When County critical area maps or other sources of credible information indicate that a site pro-  
 10 posed for development or alteration is, or may be, located within an active or potential geologically  
 11 hazardous area, the technical administrator shall have the authority to require the submittal of a  
 12 geological assessment report.
- 13 B. A geologic hazards assessment report for a geologically hazardous area shall include a field investi-  
 14 gation and contain an assessment of whether or not the type of potential geologic hazard identified  
 15 is present or not present and if development of the site will increase the potential for landslides or  
 16 erosion on or off the site. Geology hazard assessment reports shall be prepared, stamped, and  
 17 signed by a qualified professional. The report shouldis an investigation process to evaluate the geo-  
 18 logic characteristics of the subject property and adjacent areas. The geological assessment shall in-  
 19 clude field investigation and may include the analysis of historical aerial photographs, review of pub-  
 20 lic records and documentation, and interviews with adjacent property owners. The report shall in-  
 21 clude the following; provided, that the technical administrator may determine that any portion of  
 22 these requirements is unnecessary given the scope and/or scale of the proposed development:
- 23 1. Be appropriate for the scale and scope of the project;
  - 24 2. Include a discussion of all geologically hazardous areas on the site and any geologically hazard-  
 25 ous areas off site potentially impacted by or which could impact the proposed project. If the af-  
 26 ected area extends beyond the subject property, the geology hazard assessment may utilize ex-  
 27 isting data sources pertaining to that area;
  - 28 3. Clearly state that the proposed project will not decrease slope stability or pose an unreasonable  
 29 threat to persons or property either on or off site and provide a rationale as to those conclu-  
 30 sions based on geologic conditions and interpretations specific to the project;
  - 31 4. Provide adequate information to determine compliance with the requirements of this article;
  - 32 5. Generally follow the guidelines set forth in the Washington State Department of Licensing  
 33 Guidelines for Preparing Engineering Geology Reports in Washington (2006). In some cases, such  
 34 as when it is determined that no landslide or erosion risk is present, a full report may not be  
 35 necessary to determine compliance with this article, and in those cases a stamped letter or ab-  
 36 breviated report may be provided.
  - 37 6. If a landslide or erosion hazard is identified, provide minimum setback recommendations for  
 38 avoiding the landslide or erosion hazard, recommendations on stormwater management and  
 39 vegetation management and plantings, other recommendations for site development so that  
 40 the frequency or magnitude of landsliding or erosion on or off the site is not altered, and rec-  
 41 ommendations are consistent with this article.
- 42 1. A description of which areas on the site, surrounding areas that influence or could be influenced  
 43 by the site, or areas within 300 feet of the site meet the criteria for geologically hazardous areas  
 44 as set forth in WCC 16.16.330.
- 45 2. A scaled site plan showing:

Commented [TAC78]: There is no standards in 16.16.350(D).

Commented [TAC79]: To simplify what is needed for a geo-hazard report.

- 1 a.—The type and extent of geologic hazard areas, any other critical areas, and buffers on, adja-
- 2 cent to, or that are likely to impact or influence the proposal or be influenced by the pro-
- 3 posal, including properties and critical areas upslope and downslope of the subject site;
- 4 b.—The location of existing and proposed structures, fill, access roads, storage of materials, and
- 5 drainage facilities, with dimensions indicating distances to the floodplain;
- 6 c.—The existing site topography preferably accurate to within two-foot contours; and
- 7 d.—Clearing limits.
- 8 3.—A description of the site features, including surface and subsurface geology, evidence of past or
- 9 potential channel migration, hydrology, soils, and vegetation found in the project area and in all
- 10 hazard areas addressed in the report. This may include surface exploration data such as borings,
- 11 drill holes, test pits, wells, geologic reports, and other relevant reports or site investigations that
- 12 may be useful in making conclusions or recommendations about the site under investigation.
- 13 4.—A description of the processes affecting the property or affected by development of the prop-
- 14 erty, including soil erosion, deposition, or accretion, and evidence of past channel migration.
- 15 5.—A description of the vulnerability of the site to seismic and other geologic processes and a de-
- 16 scription of any potential hazards that could be created or exacerbated as a result of site devel-
- 17 opment.
- 18 6.—A description and analysis of the risk associated with development prohibitions and buffers as-
- 19 sociated with this chapter and the level of risk associated with alternative proposals for devel-
- 20 opment within or with less setback from the area of geological hazard.
- 21 7.—A description and analysis of the risk associated with the measures proposed to mitigate the
- 22 hazards, ensure public safety, and protect property and other critical areas.
- 23 8.—For projects in or affecting landslide hazard areas, the report shall also include:
- 24 a.—Assessments and conclusions regarding slope stability for both the existing and developed
- 25 conditions, including the potential types of landslide failure mechanisms (e.g., debris flow,
- 26 rotational slump, translational slip, etc.) that may affect the site. The stability evaluation
- 27 shall also consider dynamic earthquake loading, and shall use a minimum horizontal accel-
- 28 eration as established by the current version of the International Building Code.
- 29 b.—An analysis of slope recession rate shall be presented in those cases where stability is im-
- 30 pacted or influenced by wave cutting, stream meandering, or other forces acting on the
- 31 slope.
- 32 c.—Description of the run-out hazard of landslide debris to the proposed development that
- 33 starts upslope (whether part of the subject property or on a neighboring property) and/or
- 34 the impacts of landslide run-out on downslope properties and critical areas.
- 35 9-7. For projects in seismic hazard areas, the report shall also include a detailed engineering evalua-
- 36 tion of expected ground displacements, amplified seismic shaking, or other liquefaction and/or
- 37 dynamic settlement effects and proposed mitigation measures to ensure an acceptable level of
- 38 risk for the proposed structure type or other development facilities such as access roads and
- 39 utilities.
- 40 10-8. For projects in mine hazard areas, the report shall also include a description of historical
- 41 data and remnant mine conditions, if available, dates of operation, years of abandonment,
- 42 strength of overlying rock strata, and other information needed to assess stability of the site to-
- 43 gether with analysis of surface displacement or foundation stress from collapse of workings.
- 44 C. A geological assessment for a specific site may be valid for a period of up to five years when the
- 45 proposed land use activity and site conditions affecting the site are unchanged. However, if any sur-
- 46 face and subsurface conditions associated with the site change during that five-year period, the ap-
- 47 plicant may be required to submit an amendment to the geological assessment.

ARTICLE 4. FREQUENTLY FLOODED AREAS

16.16.400 Purpose.

The purposes of this article are to:

- A. Reduce the risk to life and safety, public facilities, and public and private property that result from floods.
- B. Avoid ~~and or~~ minimize impacts to fish and wildlife habitats that occur within frequently flooded areas.
- C. Protect and maintain the beneficial ecological functions ~~and values~~ of frequently flooded areas, including providing the necessary flow regime to form and maintain a full range of functional and accessible salmonid habitats both within and outside of frequently flooded areas.
- D. ~~To ensure compliance with FEMA National Flood Insurance Program (NFIP) protection standards for critical habitats of species listed under the Endangered Species Act.~~

Commented [DOC80]: Recommended by Dept. of Commerce

~~D.E.~~ In conjunction with the provisions of WCC Title 17, establish review procedures that provide an integrated approach to managing floodplain development and maintaining the capacity of the floodplain or floodway to convey and store flood waters.

Commented [CES81]: It is required that we comply with the FEMA BiOp, and we do. However, the CAO doesn't even mention it, as the BiOp was implemented after the last COA update. This change adds compliance with the NFIP as one of this chapter's purposes.

16.16.410 Designation and Mapping – Frequently Flooded Areas.

- A. Frequently flooded areas are areas located along major rivers, streams, and coastal areas where the depth, velocity, intensity and frequency of flood water during major events present a risk to human life and property. Areas susceptible to these types of hazards are hereby designated as frequently flooded areas and subject to the provisions of this article.
- B. The approximate location and extent of frequently flooded areas are shown on the County's critical area maps. These maps are to be used as a guide and do not provide a definitive critical area designation. The County shall update the maps as new hazard areas are identified and as new information becomes available. This article does not imply that land outside mapped frequently flooded areas or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of Whatcom County, any officer or employee thereof, or the Federal Insurance and Mitigation Administration (FIMA), for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.
- C. Frequently flooded areas shall include, but not be limited to:
  - 1. Areas subject to a ~~one percent~~1% recurrence interval of flood water inundation or a 100-year base flood as mapped on the current effective Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRM). This includes coastal high hazard areas as defined by this chapter and as identified and designated on the FIRM maps as Zone VE or V; provided, that tsunami hazard areas are designated as geologically hazardous areas and subject to the provisions of Article 3 of this chapter.
  - 2. Other flood hazard areas identified by the County Public Works Department based on review of historical data, high water marks, photographs of past flooding, or similar information from federal, state, county, or other valid sources when base flood elevation data from the Federal Insurance and Mitigation Administration has not been provided or is not accurate.

16.16.420 Frequently Flooded Areas – General Standards.

- A. All development shall conform to the provisions of WCC Title 17, Flood Damage Prevention, and the applicable provisions of this chapter.
- B. Development within frequently flooded areas shall be allowed ~~pursuant only when it is consistent with all of the following:~~

- 1 1. FEMA’s National Flood Insurance Program (NFIP), including the protection standards for critical
- 2 habitats for listed species, which shall be demonstrated through submittal of a habitat assess-
- 3 ment, and if necessary, a mitigation plan prepared by a qualified professional, in accordance
- 4 with the FEMA Regional Guidance for the Puget Sound Basin. The plan shall identify any federal-
- 5 ly listed species and associated habitats, and demonstrate that no harm will occur to such spe-
- 6 cies or habitats as a result of development within frequently flooded areas; and,
- 7 2. to tThe mitigation sequence in WCC 16.16.260; and,
- 8 3. Article 7, Habitat Conservation Areas, of this chapter; and,
- 9 4. The applicable general protective measures found in WWC 16.16.265.
- 10 C. The technical administrator shall have the authority to require a habitat assessment, and if neces-
- 11 sary, a mitigation plan prepared by a qualified professional, in accordance with the FEMA Regional
- 12 Guidance for the Puget Sound Basin and mitigation-mitigate for adverse impacts to floodplain-the
- 13 ecological functions of Frequently Flooded Areas; provided, that such mitigation shall be consistent
- 14 and compatible with the goal of protecting health and safety and minimizing risks to property.

Commented [CAC82]: To address the fact that we have to implement the FEMA BiOp.

Commented [CAC83]: To address the fact that we have to implement the FEMA BiOp.

**16.16.430 Review and Report Requirements.**

- 16 A. When County critical area maps or other sources of credible information indicate that a site pro-
- 17 posed for development is or may be located within a frequently flooded area, the County Public
- 18 Works Department’s River and Flood Division and/or the technical administrator shall have the au-
- 19 thority to require a critical area assessment report.
- 20 A-B. The public works department shall have primary responsibility for reviewing and approving pro-
- 21 posed developments for consistency with WCC Title 17; provided, that tThe technical administrator
- 22 shall review development proposals for consistency with the standards provided in this chapter. Ei-
- 23 ther may place conditions for approval and/or require mitigation in accordance with this chapter.
- 24 C. In addition to the requirements of WCC 16.16.225, critical areas assessment reports for frequently
- 25 flooded areas shall:
  - 26 1. Identify any federally listed species and associated habitats, and demonstrate that no harm will
  - 27 occur to such species or habitats as a result of development (inclusive of mitigation) within fre-
  - 28 quently flooded areas.meet the requirements of WCC and-
  - 29 2. Address adverse impacts to ecological functions and processes, including riparian vegetation.
  - 30 Positive impacts may also be discussed.
  - 31 3. The reports shall also include mitigation for adverse effects on Frequently Flooded Areas’
  - 32 floodplain ecological functions, where applicable.
- 33 D. The technical administrator shall have the authority to modify the requirements of Subsection C
- 34 when s/he determines that any portion of these requirements is unnecessary given the scope
- 35 and/or scale of the proposed development.
- 36 E. The technical administrator shall have the authority to modify these requirements when he/she de-
- 37 termines that any portion of these requirements is unnecessary given the scope and/or scale of the
- 38 proposed development.The technical administrator also shall have the authority to require addi-
- 39 tional information to that required in Subsection C that discloses and describes the effects of pro-
- 40 posed development on Frequently Flooded Area floodplain functions, including, but not limited to
- 41 impacts on: storageing and conveyingance of flood water; channel migration; reducing peak flows
- 42 and flow velocities; reducing redd scour and displacing displacement of rearing juvenile fish; main-
- 43 taining sediment quality in streams; reducing shear stress and bank erosion; improving water quali-
- 44 ty; providing wildlife habitat; maintaining fish access; and cycling nutrients cycling or providing other
- 45 hyporheic functions that link surface and groundwater systems. The reports shall also include miti-
- 46 gation for adverse effects on floodplain ecological functions.

Commented [CAC84]: To clarify which dept. has what duties in implementing the FEMA BiOp.

Commented [P/C85]: Moved from E

Commented [CS86]: Required under BiOp

- 1 [D.F.](#) Critical areas assessment report requirements may be waived for single-family developments and
- 2 structures accessory to agricultural uses when the technical administrator and the public works de-
- 3 partment determine that no adverse impacts or risks to life, property, or ecological functions will
- 4 occur.

**ARTICLE 5. CRITICAL AQUIFER RECHARGE AREAS**

**16.16.500 Purpose.**

The purposes of this article are to:

- A. Preserve, protect, and conserve Whatcom County’s groundwater resources and their functions and values for current and future generations by protecting critical aquifer recharge areas from contamination.
- B. Prevent adverse impacts on groundwater quantity by regulating development activities that could deplete aquifer storage, reduce groundwater levels, and/or diminish infiltration and replenishment of groundwater.
- C. Prioritize the management, protection, and conservation of groundwater recharge areas as sources of potable water supply.
- D. Establish review procedures for development activities that have the potential to adversely affect critical aquifer recharge areas.

Commented [DOC87]: Recommended by Dept. of Commerce

**16.16.510 Designation, Classification and Mapping – Critical Aquifer Recharge Areas.**

- A. Critical aquifer recharge areas play a crucial role in supplying potable water (as defined by WAC [365-190-030\(2\)](#)). These recharge areas have geologic conditions that allow high infiltration rates, which contribute significantly to the replenishment of groundwater. These conditions also create a high potential for groundwater contamination. These areas are hereby designated as critical areas and subject to the provisions of this chapter.
- B. The approximate location and extent of critical aquifer recharge areas are shown on the County’s critical area maps. These maps are to be used as a guide and do not provide a definitive critical area designation. The County shall update the maps as recharge areas are identified and as new information becomes available.
- C. Critical aquifer recharge areas shall be designated and classified as follows:
  - 1. Low, Moderate, and High Susceptibility Aquifer Recharge Areas. Aquifer recharge areas susceptible to degradation or depletion because of hydrogeologic characteristics are those areas meeting the criteria established by the State Department of Ecology (Guidance Document for the Establishment of Critical Aquifer Recharge Area Ordinances, July 2000, Publication No. 97-30, Version 4.0).
  - 2. Wellhead Protection Areas. The area defined by the boundaries of the 10-year time of groundwater travel, in accordance with WAC [246-290-135](#). For purposes of this chapter, all wellhead protection areas shall be designated as highly susceptible critical aquifer recharge areas.
- D. If special groundwater management areas or susceptible groundwater management areas are established in Whatcom County in accordance with WAC [173-200-090](#) or [173-100-010](#), respectively, then these areas shall be incorporated into the highly susceptible aquifer designation.

**16.16.520 Critical Aquifer Recharge Areas – General Standards.**

In addition to the applicable general protective measures found in WCC 16.16.265, All development in a critical aquifer recharge area shall meet the following standards:

- A. The proposed development will not cause contaminants to enter the aquifer and will not significantly adversely affect the recharging of the aquifer in an adverse manner.
- B. The proposed development must comply with the water source protection requirements and recommendations of the Federal Environmental Protection Agency, State Department of Health, and the Whatcom County health department.

- 1 C. The proposed development must be designed and constructed in accordance with the County  
2 stormwater management requirements or other applicable stormwater management standards  
3 (Whatcom County Development Standards Chapter 2, WCC Title [20](#)).

4 **16.16.525 Standards—Activity Subject to Critical Areas Review.**

5 The following development activities, when proposed in moderate and high susceptibility critical aquifer  
6 recharge areas, have the potential to adversely affect groundwater quality and/or quantity and shall  
7 require submittal of a critical areas assessment report as defined in WCC [16.16.255](#) and [16.16.535](#):

- 8 A. Any development with an on-site domestic septic system at a gross density greater than one system  
9 per residence per acre.
- 10 B. All storage tanks and storage facilities for hazardous substances and/or hazardous wastes; provided,  
11 that:
- 12 1. The tanks must comply with Department of Ecology regulations contained in Chapters [173-360](#)  
13 and [173-303](#) WAC as well as International Building Code requirements;
  - 14 2. All new underground tanks and facilities shall be designed and constructed so as to prevent re-  
15 leases due to corrosion or structural failure for the operational life of the tank, or have a sec-  
16 ondary containment system to prevent the release of any stored substances;
  - 17 3. All new aboveground storage tanks and facilities shall be designed and constructed so as to pre-  
18 vent the release of a hazardous substance to the ground, groundwaters, or surface waters by  
19 having primary and secondary containment.
- 20 C. Vehicle repair, servicing and salvaging facilities; provided, that the facility must be conducted over  
21 impermeable pads and within a covered structure capable of withstanding normally expected  
22 weather conditions. Chemicals used in the process of vehicle repair and servicing must be stored in  
23 a manner that protects them from weather and provides containment should leaks occur. Dry wells  
24 shall not be allowed on sites used for vehicle repair and servicing. Dry wells existing on the site prior  
25 to facility establishment must be abandoned using techniques approved by the State Department of  
26 Ecology prior to commencement of the proposed activity.
- 27 D. Use of reclaimed wastewater must be in accordance with adopted water or sewer comprehensive  
28 plans that have been approved by the State Departments of Ecology and Health and the Whatcom  
29 County council per Chapter [57.16](#) RCW; provided, that:
- 30 1. Surface spreading must meet the groundwater recharge criteria given in RCW [90.46.010](#)(10) and  
31 [90.46.080](#).
  - 32 2. Direct injection must be in accordance with the standards developed by authority of RCW  
33 [90.46.042](#).
- 34 E. Any other development activity that the technical administrator determines is likely to have a signif-  
35 icant adverse impact on groundwater quality or quantity, or on the recharge of the aquifer. The de-  
36 termination must be made based on credible scientific information.
- 37 F. Metals and hard rock mining and new sand and gravel mining subject to the provisions of the Coun-  
38 ty's current MRL review procedures in Chapter [20.73](#) WCC; provided, that for new MRLs such activi-  
39 ties shall be prohibited within the 10-year travel time zone of wellhead protection areas.

40 **16.16.530 Standards—Prohibited Uses.**

41 The following developments and uses are prohibited in critical aquifer recharge areas:

- 42 A. New landfills, including hazardous or dangerous waste, municipal solid waste, special waste, wood  
43 waste of more than 2,000 cubic yards, and inert and demolition waste landfills.
- 44 B. Underground injection wells. Class I, III, and IV wells and subclasses 5F01, 5D03, 5F04, 5W09, 5W10,  
45 5W11, 5W31, 5X13, 5X14, 5X15, 5W20, 5X28, and 5N24 of Class V wells.

- 1 C. Wood treatment facilities that allow any portion of the treatment process to occur over permeable
- 2 surfaces (both natural and manmade).
- 3 D. Facilities that store, process, or dispose of chemicals containing perchloroethylene (PCE) or methyl
- 4 tertiary butyl ether (MTBE).
- 5 E. Facilities that store, process, or dispose of radioactive substances.
- 6 F. Other activities that the technical administrator determines would significantly degrade groundwa-
- 7 ter quality and/or reduce the recharge to aquifers currently or potentially used as a potable water
- 8 source, or that may serve as a significant source of base flow to a regulated stream. The determina-
- 9 tion must be made based on credible scientific information.

#### 10 **16.16.535 Review and Report Requirements.**

- 11 A. When County critical area maps or other sources of credible information indicate that the proposed
- 12 development activities listed in WCC [16.16.525](#) occur within a critical aquifer recharge area, the
- 13 technical administrator shall have the authority to require a critical area assessment report and to
- 14 regulate developments accordingly. Critical areas assessment reports for aquifer recharge areas
- 15 shall meet the requirements WCC [16.16.255](#) and this section. Assessment reports shall include the
- 16 following site- and proposal-related information unless the technical administrator determines that
- 17 any portion of these requirements is unnecessary given the scope and/or scale of the proposed de-
- 18 velopment:
  - 19 1. Available information regarding geologic and hydrogeologic characteristics of the site, including
  - 20 the surface location of all critical aquifer recharge areas located on-site or immediately adjacent
  - 21 to the site, and permeability of the unsaturated zone;
  - 22 2. Groundwater depth, flow direction and gradient based on available information;
  - 23 3. Currently available data on wells and springs within 1,300 feet of the project area;
  - 24 4. The presence and approximate location of other critical areas, including surface waters, within
  - 25 1,300 feet of the project area based on available data and maps;
  - 26 5. Existing and available historic water quality data for the area to be affected by the proposed ac-
  - 27 tivity;
  - 28 6. Proposed best management practices;
  - 29 7. The effects of the proposed project on the groundwater quality and quantity, including:
    - 30 a. Potential effects on stream flow, wetlands and/or other resources, and on ecosystem pro-
    - 31 cesses;
    - 32 b. Predictive evaluation of groundwater withdrawal effects on nearby wells and surface water
    - 33 features; and
    - 34 c. Predictive evaluation of contaminant transport based on potential releases to groundwater;
    - 35 and
  - 36 8. A spill plan that identifies equipment and/or structures that could fail, resulting in an impact.
  - 37 Spill plans shall include provisions for emergency response provisions as well as regular inspec-
  - 38 tion, repair, and replacement of structures and equipment that could fail.
- 39 B. If the applicant can demonstrate through a valid hydrogeological assessment that geologic and soil
- 40 conditions underlying their property do not meet the criteria for low, moderate, or high susceptibil-
- 41 ity, the property shall not be considered a critical aquifer recharge area.

**ARTICLE 5.5. AREAS WITHIN THE RURAL RESIDENTIAL DISTRICT OF LUMMI ISLAND**

**16.16.540 Areas within the Rural Residential District of Lummi Island.**

**16.16.541 Exempt Wells.**

Wells drilled as a replacement of an existing well are exempt from this article as long as the withdrawal rate is not increased by more than ~~20% percent~~ of the existing well. If baseline withdrawal rate information is not available, this must be established by a licensed well driller prior to well replacement.

**16.16.542 Minimum Well Spacing for All New Wells.**

Wells shall have a minimum of 200 feet distance between a new well and an existing operating well.

**16.16.543 Requirements for Public Water System Wells, Non-Group B Two-Party Wells, and Nondomestic Wells.**

In addition to the minimum well spacing, the following measures are required for public water system wells, non-Group B two party wells, and nondomestic wells. (Includes “public water system” wells and non-Group B two party wells as defined under Whatcom County drinking water regulations and nondomestic use wells pumping greater than 250 gpd. “Public water system” is defined under Chapter [24.11](#) WCC as any water system providing piped water for consumption, excluding a system serving only one single-family residence and any system with four or fewer connections serving only residences on the same farm. A “non-Group B two party well” is defined in Chapter [24.11](#) WCC as a water system ~~utilizing~~ using one well to serve two single-family residences for which the director of health has waived all public water system requirements.)

**A. Chloride Monitoring and Testing.**

1. Monitoring. Well owners shall collect and have water samples analyzed for chloride concentration twice annually, in April and August, and submitted to the Whatcom County health department.
2. Chloride Determinations for New Wells or Increased Pumping of Existing Wells. Applications for new wells, applications to convert an existing private well into a two party well, any application to expand the number of connections of a public water system, and nondomestic use wells proposing greater than ~~20% percent~~ increase in groundwater withdrawals in an existing well require a minimum 24-hour-duration pumping test at ~~100% percent~~ of the proposed average daily demand, at the end of which a water sample will be collected for analysis of chloride concentration. Subdivisions using individual wells are required to test wells simultaneously, or alternatively have a licensed hydrogeologist evaluate well interference and water quality changes. Subdivision wells shall remain accessible for future testing in the event of subdivision expansion.
3. Restrictions on New Wells or Increased Pumping of Existing Wells. New wells cannot be permitted, existing private wells cannot be converted to two party wells, existing public water systems cannot expand beyond their existing number of approved connections, and nondomestic wells cannot increase pumping rates greater than ~~20% percent~~ if chloride concentrations measured at the end of the test specified in subsection (A)(2) of this section are greater than 100 mg/L. For systems expanding ~~20% percent~~ or less within one year, the highest chloride determination within the past year in subsection (A)(1) of this section cannot be greater than 100 mg/L.
4. Limit on Water Use by Existing Wells. Any increase (~~zero-0~~ to 20% percent) in water use will not be permitted if either semi-annual analysis in the previous 12-month period indicates greater than 100 mg/L chloride concentration. If the semi-annual chloride determinations have not

- 1           been submitted as required, then the pump testing requirement of subsection (A)(2) of this sec-  
2           tion shall apply.
- 3           5. Prior to 10 days before the pumping test, all property owners within 1,000 feet of the well loca-  
4           tion shall be notified by first class mail informing them of the test and providing contact infor-  
5           mation of the person responsible for the testing.
- 6           B. Arsenic Monitoring and Testing in the Unconsolidated Aquifer.
- 7           1. The following monitoring and testing is required unless the well is determined not to be located  
8           in the unconsolidated sandstone aquifer. A Washington State licensed hydrogeologist must  
9           make the determination in a submitted report.
- 10          2. Arsenic Determinations for New Wells or Increased Pumping of Existing Wells. Applications for  
11          new wells, applications to convert an existing private well into a two party well, any application  
12          to expand the number of connections of a public water system, and nondomestic use wells pro-  
13          posing a greater than ~~20% percent~~ increase in groundwater withdrawals in an existing well re-  
14          quire a minimum 24-hour-duration pumping test at ~~100% percent~~ of the proposed average daily  
15          demand, at the end of which a water sample will be collected for analysis of arsenic concentra-  
16          tion.
- 17          3. Restrictions on New Wells or Increased Pumping of Existing Wells. New wells cannot be permit-  
18          ted, existing private wells cannot be converted to two party wells, existing public water systems  
19          cannot expand beyond their existing number of approved connections, and nondomestic wells  
20          cannot increase pumping rates greater than ~~20% percent~~ if arsenic concentrations measured at  
21          the end of the test specified in subsection (B)(2) of this section are greater than 10 µg/L.
- 22          4. Limit on Water Use by Existing Wells. Any increase (~~zero-0~~ to ~~20% percent~~) in water use will not  
23          be permitted if the most recent arsenic determination indicated greater than 10 µg/L arsenic  
24          concentration. If no arsenic concentration has been determined in the past three years, the  
25          pumping test requirement in subsection (B)(2) of this section shall apply.
- 26          5. Prior to 10 days before the pumping test, all property owners within 1,000 feet of the well loca-  
27          tion shall be notified by first class mail informing them of the test and providing contact infor-  
28          mation of the person responsible for the testing.

29           **16.16.544 Administrative Waiver.**

30           Administrative waivers may be granted to any section of these requirements by petition to the adminis-  
31           tering agency. Waiver request must demonstrate that the project is consistent with the intent of these  
32           requirements; no health hazard would result from this action, and must be stamped by a licensed Wash-  
33           ington State hydrogeologist.

ARTICLE 6. WETLANDS

16.16.600 Purpose.

The purposes of this article are to:

A. Recognize and protect the beneficial functions, values, and services performed by many wetlands, which include, but are not limited to, providing food, breeding, nesting and/or rearing habitat for fish and wildlife; recharging and discharging groundwater; contributing to stream flow during low flow periods; stabilizing stream banks and shorelines; storing storm and flood waters to reduce flooding and erosion; and improving water quality through biofiltration, adsorption, retention and transformation of sediments, nutrients, and toxicants.

B. Regulate land use to avoid adverse effects on wetlands and maintain the functions, services, and values of freshwater and estuarine wetlands throughout Whatcom County.

C. Establish review procedures for development proposals in and adjacent to wetlands.

D. Establish minimum standards for identifying and delineating wetlands.

Commented [DOC88]: Recommended by Dept. of Commerce

Commented [TAC89]: To codify what should be contained in a wetland report.

16.16.610 Wetlands Designation, Rating, and Mapping – Wetlands.

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 swamps, marshes, bogs, 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, retention 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. However, wetlands include those artificial wetlands intentionally created to mitigate wetland impacts. Swamps, freshwater and saltwater marshes, bogs, and some meadows are examples of wetlands. Some riparian areas adjacent to streams are also wetlands.

A. Wetlands shall be identified/delineated in accordance with the requirements of RCW 36.70A.175. Unless otherwise provided for in this chapter, all areas within the County determined to be wetlands meeting the criteria in accordance with the Washington State Wetlands Identification and Delineation Manual (Ecology Publication 96-94) or the U.S. Army Corps of Engineers Wetlands Delineation Manual, 1987 Edition, and the Western Mountains, Valleys, and Coast Region supplement (Version 2.0) 2010 or as revised corresponding guidance letters, regardless of any formal identification, are hereby designated critical areas and are subject to the provisions of this article.

B. The approximate location and extent of wetlands are shown on the County's critical area maps. However, this information has come from multiple sources over many years' time and is not precise, only general. Thus, these maps are to be used as a guide and do not provide a definitive critical area designation; a property specific assessment is necessary for that. The county shall update the maps as new wetlands are identified and as new information becomes available.

C. Wetlands shall be rated based on categories that reflect the functions and values of each wetland. Wetland categories shall be based on the criteria provided in the Washington State Wetland Rating System for Western Washington, revised 2014, and as amended thereafter, August 2004 (Ecology Publication No. 14-06-02904-06-025), as determined using the appropriate rating forms and associated figures contained in that publication. These categories are generally defined as follows:

- 1. Category I. Category I wetlands are: (1) relatively undisturbed estuarine wetlands larger than 1 acre; (2) wetlands of high conservation value that are identified by scientists of the Washington

Commented [CES90]: Wetlands were already defined in 16.16.900, yet it differed. This change rectifies that, mimicking the definition.

The P/C recommends deleting this section altogether, since wetlands are already defined in Art. 9

Commented [P/C91]: The P/C removed this section, as wetlands are already defined in Art. 9.

Commented [TAC92]: This manual is no longer used.

Commented [CAC93]: This manual is now used.

Commented [TAC94]: Use of the figures has always been required by DOE, but hasn't really been done. DOE is now diligent about requiring them.

Natural Heritage Program/DNR; (3) bogs; (4) mature and old-growth forested wetlands larger than 1 acre; (5) wetlands in coastal lagoons; (6) interdunal wetlands that score 8 or 9 habitat points and are larger than 1 acre; and (7) wetlands that perform many functions well (scoring 23 points or more). These wetlands: (1) represent unique or rare wetland types; (2) are more sensitive to disturbance than most wetlands; (3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or (4) provide a high level of functions.

1. ~~Category I Wetlands. Category I wetlands are those wetlands of exceptional value in terms of protecting water quality, storing flood and stormwater, and/or providing habitat for wildlife as indicated by a rating system score of 2370 points or more on the Ecology rating forms. These are wetland communities of infrequent occurrence that often provide documented habitat for sensitive, threatened or endangered species, and/or have other attributes with functions and services that are very difficult or impossible to replace if altered. Category I wetlands include large, undisturbed estuarine wetlands, wetlands with a high conservation value, bogs, wetlands with mature or old growth forests, coastal lagoons, and interdunal wetlands.~~

2. ~~Category II. Category II wetlands are: (1) estuarine wetlands smaller than 1 acre, or disturbed estuarine wetlands larger than 1 acre; (2) interdunal wetlands larger than 1 acre or those found in a mosaic of wetlands; or (3) wetlands with a moderately high level of functions (scoring between 20 and 22 points). Category II Wetlands. Category II wetlands have significant value based on their function as indicated by a rating system score of between 2051 and 2269 points on the Ecology rating forms. They do not meet the criteria for Category I rating but occur infrequently and have qualities that are difficult to replace if altered.~~

3. ~~Category III. Category III wetlands are: (1) wetlands with a moderate level of functions (scoring between 16 and 19 points); (2) can often be adequately replaced with a well-planned mitigation project; and (3) interdunal wetlands between 0.1 and 1 acre. Wetlands scoring between 16 and 19 points generally have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. Category III Wetlands. Category III wetlands have important resource value as indicated by a rating system score of between 1630 and 1950 points on the Ecology rating forms. They occur commonly in Whatcom County.~~

4. ~~Category IV. Category IV wetlands have the lowest levels of functions (scoring fewer than 16 points) and are often heavily disturbed. These are wetlands that we should be able to replace, or in some cases to improve. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and should be protected to some degree. Category IV Wetlands. Category IV wetlands are wetlands that have been highly altered and are of limited resource value, as indicated by a rating system score of less than 1630 points on the Ecology rating forms. They typically have vegetation of similar age and class, lack special habitat features, and/or are isolated or disconnected from other aquatic systems or high quality upland habitats. Nevertheless, Category IV wetlands still have value, as cumulatively, they can play a vital role in moderating hydrology. They also have the most potential for ecological lift (difference in value if restored.)~~

~~E-D.~~ All wetlands shall be regulated regardless of size; provided, that hydrologically isolated Category IV wetlands less than one-tenth acre (4,356 1,000 square feet in size) may be adversely impacted shall be exempt from the requirements of this article when all of the following criteria are met:

1. The wetland does not provide significant suitable breeding habitat for native amphibian species. Suitable breeding habitat may be indicated by adequate and stable seasonal inundation, presence of thin-stemmed emergent vegetation, and clean water;

Commented [TAC95]: Changes in scores (throughout) reflect the new DOE rating system.

Commented [TAC96]: Reflects the new DOE rating system.

Commented [TAC97]: 1/10 ac from 10+ year old DOE guidance. TAC says this exemption isn't scientifically sound, but made more as a policy choice. Now know that some spp. (e.g., fairy shrimp) are predominately found in smaller wetlands, and that even small wetlands serve hydrologic functions.

- 2. The wetland does not have unique characteristics that would be difficult to replace through standard compensatory mitigation practices;
- 3. The wetland is not located within a habitat conservation area, ~~or buffer~~ as defined in WCC [16.16.710](#), ~~or buffer~~ ~~and is not integral to the maintenance of habitat functions of a habitat conservation area;~~
- 4. The wetland is not located within a floodplain and/or not associated with a shoreline of the state as defined by the County's Shoreline Master Program (WCC Title [23](#));
- 5. The wetland is not part of a mosaic of wetlands and uplands. This criterion shall be determined using the guidance provided in Ecology's Wetland Rating System for Western Washington (Publication No. [14-06-02904-06-025](#)); and
- 6. The wetland is not identified as locally significant by a local watershed plan prepared pursuant to Chapter [400-12](#) WAC.
- ~~6. Adverse impacts are mitigated pursuant to WCC 16.16.680.~~

**16.16.620 Wetlands – General standards.**

The following activities may be permitted in wetlands and/or wetland buffers as specified when all reasonable measures have been taken to avoid adverse effects on wetland functions and values [as documented through an alternatives analysis](#), ~~the amount and degree of alteration are limited to the minimum needed to accomplish the project purpose,~~ and compensatory mitigation is provided for all adverse impacts to wetlands that cannot be avoided, ~~and the amount and degree of alteration are limited to the minimum needed to accomplish the project purpose:~~

- A. Developments that meet the reasonable use or variance standards as set forth in WCC [16.16.270](#).
- ~~B. Surface water discharge into Category II, III, and IV wetlands and their buffers and/or Category I wetland buffers when no other alternatives for discharge are feasible and the discharge is designed to minimize physical, hydrologic and ecological impacts to the wetland.~~
- ~~B.~~ Utility lines in Category II, III, and IV wetlands and their buffers and/or Category I wetland buffers when no feasible conveyance alternative is available shall be designed and constructed to minimize physical, hydrologic, and ecological impacts to the wetland, and meet all of the following:
  - 1. The utility line is located as far from the wetland edge [and/or buffer](#) as possible and in a manner that minimizes disturbance of soils and vegetation.
  - 2. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line and the area is restored following utility installation.
  - 3. Buried utility lines shall be constructed in a manner that prevents adverse impacts to [surface and subsurface drainage](#). This may include [regrading to the approximate original contour or the use of trench plugs or other devices as needed to maintain hydrology](#).
  - ~~3.4. Best management practices are used in maintaining said utility corridors such that maintenance activities do not expand the corridor further into the critical area.~~
- ~~D.C.~~ Public roads ~~or~~ bridges, ~~and trails~~ in Category II, III, and IV wetlands and their buffers and/or Category I wetland buffers when no feasible alternative alignment is available and the road ~~or~~ bridge ~~or trail~~ is designed and constructed to minimize physical, hydrologic, and ecological impacts to the wetland, including placement on elevated structures as an alternative to fill, where feasible.
- ~~D.~~ Access to private development sites may be permitted to cross Category II, III, or IV wetlands or their buffers, provided there are no feasible alternative alignments and measures are taken to maintain preconstruction hydrologic connectivity across the access road. Alternative access shall be pursued to the maximum extent feasible, including through the provisions of Chapter [8.24](#) RCW. Exceptions or deviations from technical standards for width or other dimensions, and specific construction standards to minimize impacts may be specified, including placement on elevated structures as an alternative to fill, if feasible.

**Commented [TAC98]:** Alternatives analyses are supposed to be done whenever there's an impact. We require formal ones on commercial project and plats, but only informally on smaller (SFR) projects. TAC thinks these should all be included in all wetlands reports.

**Commented [TAC99]:** Combined with G as they address the same topic.

**Commented [TAC100]:** Though utility corridors may be allowed, they should still be managed using BMPs.

**Commented [TAC101]:** Trails are addressed in I, below.

1 **E. Agricultural Uses as follows:**

- 2 1. Construction of an appurtenant structure that is associated with ~~an~~ a primary agricultural use;  
 3 or the reconstruction, remodeling, or maintenance of such structures in wetland buffers, subject  
 4 to all of the following specific criteria:  
 5 i. The structure is located within an existing lot of record and is an existing ongoing agricultur-  
 6 al use.  
 7 ii. There is no other feasible location with less impact to critical areas.  
 8 iii. Clearing and grading activity and impervious surfaces are limited to the minimum necessary  
 9 to accommodate the proposed structure and, where possible, surfaces shall be made of  
 10 pervious materials.  
 11 2. ~~Existing or Ongoing~~ Ongoing agricultural activities subject to the following:

- 12 i. The activities are conducted in accordance with all applicable provisions of this chapter and  
 13 WCC Title 17; or  
 14 ii. The agricultural activity is in compliance with the Conservation Program on Agricultural  
 15 Lands (CPAL) as described in WCC 16.16.290, and Appendix A Article 8 of this chapter.

16 **F. Domestic wells serving single-family developments (including plats, short plats, and individual single-**  
 17 **family residences) and necessary appurtenances, including a pump and appropriately sized pump**  
 18 **house, but not including a storage tank, in wetland buffers when all of the following conditions are**  
 19 **met:**

- 20 1. There is no viable alternative to the well site outside of the buffer and the well is located as far  
 21 back from the wetland edge as is feasible; ~~and~~  
 22 2. The well is more than 75 feet deep; and  
 23 2-3. Any impacts to the wetland and buffer from staging equipment and the well-drilling process are  
 24 mitigated.

25 **G. Stormwater management facilities.**

- 26 3-1. Stormwater management facilities, limited to detention/retention/treatment ponds, media fil-  
 27 tration facilities, and lagoons or infiltration basins, or bio-retention cells (engineered or  
 28 raingardens) may be permitted within the outer 50% percent of a Category II, III or IV wetland  
 29 buffer; provided, that:  
 30 i. Construction of the stormwater facility does not displace or impact a forested buffer;  
 31 ii. The width of the buffer between the stormwater facility and the wetland edge is not less  
 32 than the low intensity land use buffer standards in WCC 16.16.630;  
 33 iii. There is no other feasible location for the stormwater facility and the facility is located, con-  
 34 structed, and maintained in a manner that minimizes adverse effects on the buffer and ad-  
 35 jacent critical areas;  
 36 iv. The stormwater facility is designed to mimic and resemble natural wetlands and meets ap-  
 37 plicable county or state stormwater management standards and the discharge water meets  
 38 state water quality standards; and  
 39 v. Low impact development approaches have been considered and implemented to the maxi-  
 40 mum extent feasible per the Department of Ecology Stormwater manual.

- 41 4-2. Surface water or s stormwater conveyance or discharge facilities such as dispersion trenches,  
 42 level spreaders, and outfalls may be permitted within a Category ~~II, III;~~ or IV wetland buffer on a  
 43 case-by-case basis when the technical administrator determines that all of the following are  
 44 met:  
 45 i. Due to topographic or other physical constraints, there are no feasible alternative locations  
 46 for these facilities in the outer buffer area or outside the buffer.  
 47 ii. The discharge is located as far from the wetland edge and/or buffer as possible and in a  
 48 manner that minimizes disturbance of soils and vegetation.

Commented [CAC102]: Moved J here, combining two ag exemptions into one bullet.

Commented [CAC103]: Changed to clarify what single-family developments means.

Commented [TAC104]: Two bullets on stormwater facilities were combined into one.

Commented [TAC105]: By 2017, Stormwater manual requires use of LID.

iii. The discharge outlet is designed to prevent erosion and promote infiltration.

~~iii-iv.~~ The dispersion outfall is within the outer 25% of the buffer.

G-H. Passive recreation facilities that are part of a nonmotorized trail system or environmental education program, including walkways, wildlife viewing structures, ~~and or public education trails in wetland buffers~~; provided, that all of the following criteria are met:

1. Private trails shall not exceed 46 feet in width, and public trails shall not exceed 10 feet in width.

~~2-5.~~ They shall be made of pervious material or on an elevated structure where feasible.

3. They shall be designed to avoid removal of significant trees.

4. ~~When located in the buffer, The trail or they facility is should be located in the outer 25%0 percent of the buffer.~~

~~2-5.~~ area, and should be designed to avoid removal of significant trees. If they must cross a wetland, they shall be elevated, constructed to minimize supports, and be the minimum size necessary to accommodate the level of service.

~~3-6.~~ They trail and/or facility is shall be constructed and maintained in a manner that minimizes disturbance of the buffer and associated critical areas.

H. ~~Existing ongoing agricultural activities subject to the following:~~

1. ~~The activities are conducted in accordance with all applicable provisions of this chapter and WCC Title 17, or~~

2. ~~The agricultural activity is in compliance with the Conservation Program on Agricultural Lands (CPAL) as described in WCC 16.16.290, and Appendix A of this chapter.~~

I. Single-family developments may be permitted to encroach into wetland buffers subject to the technical administrator's approval; provided, that all of the criteria in WCC 16.16.270(A) (Reasonable Use) are met.

J. On-site sewage disposal systems (OSS) may be permitted in wetland buffers when accessory to an approved residential structure:

1. ~~When, for which~~ it is not feasible to connect to a public sanitary sewer system; and

2. It is located as far as possible from the wetland; and,

3. ~~When~~ it is operated and maintained in accordance with WCC 24.05.170; provided, that adverse effects on water quality are avoided.

J-K. Phosphorus reducing BMP structures approved and installed through the Homeowners' Improvement Program (or as may be renamed) within the Lake Whatcom watershed to treat runoff from existing development may be permitted within the outer 50% percent of a Category II, III or IV wetland buffer.

**16.16.630 Standards – Wetland Buffer Widths.**

The technical administrator shall have the authority to require buffers from the edges of all wetlands (in addition to the building setback required by 16.16.265(D)) in accordance with the following:

A. Wetland buffers shall be established to protect the integrity, functions and values of the wetland.

Wetland buffers shall be measured horizontally from a perpendicular line established by the wetland boundary based on the base buffer width identified in Table 1 edge on all sides as marked in the field. Buffers shall not include areas that are functionally and effectively disconnected from the wetland by an existing, legally established road or other substantial developed surface.

B. The buffer standards required by this article presume the existence of a dense, multi-storied native vegetation community in the buffer adequate to protect the wetland functions and values. When a buffer lacks adequate vegetation, the technical administrator may increase the standard buffer, require buffer planting or enhancement, and/or deny a proposal for buffer reduction or buffer averaging.

**Commented [TAC106]:** DOE guidance is that dispersion outfalls are only allowed in the outer 25% of the **buffer** of Cat III or IV wetlands. See Small Cities Guidance page A-11

**Commented [CAC107]:** Typically, private trails in subdivisions don't exceed 4 feet in width as they are not as heavily used as public trails. The TAC thought it best to limit the amount of disturbance they could create.

**Commented [CAC108]:** Moved to E, above (combining two ag issues into one bullet).

**Commented [TAC109]:** To preclude someone from establishing a non-permitted road or driveway and breaking the buffer into parts, allowing its use.

C. The standard buffer shall be based on a combination wetland category, habitat function score (from the wetland rating form), and land use intensity on the intensity of the proposed land use and the functions and values provided by the wetland. The intensity of the land use shall be determined in accordance with the definitions outlined found in Article 8-9 of this chapter unless the technical administrator determines that a lesser level of impact is appropriate based on information provided by the applicant demonstrating that the proposed land use will have a lesser impact on the wetland than that contemplated under the buffer standard otherwise appropriate for the land use, as specified in Section 16.16.640.

D. Standard buffer widths are shown in Table 1. However, Category I or II wetlands with "special characteristics" as determined and defined through the Washington State Department of Ecology (2014) Wetland Rating System (including Estuarine, Coastal Lagoons, Wetlands of High Conservation Value, Bogs, Forested, and Interdunal wetlands) only buffers in the highest habitat score (8-9) group are applied.

D. There are three possible standard buffer scenarios listed in the following tables:

**Table 1. Standard Wetland Buffer Widths**

Wetland Category	Habitat Function Score	Land Use Intensity*		
		High	Moderate	Low
Buffer Width (feet)				
<b>Category I</b>				
	8-9	300	225	150
	5-7	150	110	75
	<5	100	75	50
<b>Category II</b>				
	8-9	275	150	100
	5-7	150	110	75
	<5	80	60	50
<b>Category III</b>				
	8-9	150	110	75
	5-7	150	100	60
	<5	80	60	50
<b>Category IV</b>				
	8- < 59	50	40	25
	5-7	50	40	25
	<5	50	40	25

\* Definitions for high, moderate, and low intensity land use are provided in Article 8 of this chapter.

**Commented [CAC110]:** RFC. The existing tables were combined into one for ease of use; no changes in buffer widths are proposed. However, the Habitat Function Scores have been changed to reflect the new Ecology rating system.

E. For wetlands that have a high level of function for wildlife habitat as indicated by a habitat function score of 8 to 929 points or more on the wetland rating form, the buffers shall be as follows:

Wetland Category	High Intensity	Moderate Intensity	Low Intensity
	Buffer Width (feet)		
Category I	300	225	150
Category II	275	150	100

Category III	150	110	75
Category IV	50	40	25
Definitions for high, moderate and low intensity land use are provided in Article 8 of this chapter.			

1 F. For wetlands that have a moderate level of function for wildlife habitat as indicated by a habitat  
 2 function score of 20 to 285 to 7 points on the wetland rating form, the buffers shall be as follows:

Wetland Category	High Intensity	Moderate Intensity	Low Intensity
	Buffer Width (feet)		
Category I	150	110	75
Category II	150	110	75
Category III	150	100	60
Category IV	50	40	25
Definitions for high, moderate and low intensity land use are provided in Article 8 of this chapter.			

3 G. For wetlands that have a low level of function for wildlife habitat as indicated by a habitat function  
 4 score of less than 20 5 points on the wetland rating form, the buffers shall be as follows:

Wetland Category	High Intensity	Moderate Intensity	Low Intensity
	Buffer Width (feet)		
Category I	100	75	50
Category II	100	75	50
Category III	80	60	50
Category IV	50	40	25
Definitions for high, moderate and low intensity land use are provided in Article 8 of this chapter.			

5 H. Because there is a large increase in width associated with a one point increase in the habitat score,  
 6 the technical administrator may deviate from the buffer requirements outlined in subsection D of  
 7 this section and increase the buffer widths in increments of 20 feet for every one point increase in

~~the habitat score in accordance with guidance developed by the Department of Ecology in Wetlands in Washington State— Volume 2: Guidance for Protecting and Managing Wetlands (Publication No. 05-06-008).~~

**Commented [TAC111]:** Not necessary with the new DOE point system, esp. with the other buffer reduction provisions below.

**16.16.640 Standards—Wetland Buffer Reduction.**

The technical administrator shall have the authority to reduce the standard buffer widths identified in WCC [16.16.630](#); provided, that the general standards for avoidance and minimization per WCC [16.16.260](#)(A)(1)(a) and (b) shall apply; and provided further, that all of the following apply:

- A. The buffer reduction shall not adversely affect the functions and values of the adjacent wetlands;
- B. The buffer of a Category ~~I, or II, or III~~ wetland shall not be reduced to less than ~~75% percent~~ of the required buffer or 50 feet, whichever is greater;
- C. The buffer of a Category ~~II or~~ IV wetland shall not be reduced to less than ~~50% percent~~ of the required buffer, or 25 feet, whichever is greater;
- D. The applicant implements all reasonable measures to ~~reduce~~ minimize the adverse effects of adjacent land uses and ensure no net loss of buffer functions and values. ~~The specific~~Such measures ~~may that shall be implemented~~include, but are not limited to, the following:
  - 1. Direct lights away from the wetland and buffer.
  - 2. Locate ~~activities facilities~~ that generate ~~substantial noise (such as some manufacturing, industrial and recreational facilities)~~ away from the wetland and buffer.
  - 3. ~~Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered.~~
  - ~~3-4.~~ Establish covenants limiting use of pesticides within 150 feet of wetland.
  - ~~4-5.~~ Apply ~~implement~~ integrated pest management ~~programs~~.
  - 6. Retrofit stormwater detention and treatment for roads and existing adjacent development.
  - 7. Prevent channelized flow from lawns that directly enters the buffer.
  - ~~5-8.~~ Infiltrate or treat, detain, and disperse ~~runoff~~ into buffer ~~new runoff from impervious surfaces and new lawns~~.
  - ~~6-9.~~ Post signs at the outer edge of the critical area or buffer to clearly indicate the location of the critical area according to the direction of the County.
  - 10. Use privacy fencing.
  - ~~7-11.~~ Plant ~~buffer~~ with ~~dense~~ native vegetation appropriate for the ~~region~~ County to ~~delineate buffer edge and to create screens or thorny barriers to noise, light, human intrusion and discourage disturbance~~ domestic animal intrusion.
  - ~~8-12.~~ Use low impact development where appropriate.
  - 13. Establish a permanent conservation easement ~~or tract~~ to protect the wetland and the associated buffer.
  - ~~9-14.~~ Use ~~best management practices to control dust~~.

**Commented [TAC112]:** To be consistent with DOE guidance, which is based on BAS.

**Commented [TAC113]:** To be more clear that this measure is not simply planting a buffer that is not currently adequately vegetated as in 16.16.630 above. This is to further screen adjacent land use using native, thorny or other vegetation.

**Commented [CAC114]:** Language from new Ecology Table. The idea behind these mitigating measures is that use of them will decrease the intensity of the proposed adjacent land use so the buffer would be decreased from high to mod or mod to low land use intensity with associated buffers.

**16.16.650 Standards—Wetland Buffer Averaging.**

The technical administrator shall have the authority to average wetland buffer widths on a case-by-case basis; provided, that the general standards for avoidance and minimization per WCC [16.16.260](#)(A)(1)(a) and (b) shall apply, and when all of the following criteria are met:

- A. The buffer averaging does not reduce the functions or values of the wetland;
- B. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer, and all increases in buffer dimension for averaging must be generally parallel to the wetland boundary to avoid creating buffer “panhandles” ~~unless it constitutes an essential-wildlife corridor~~;
- C. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation;

- 1 D. The minimum buffer width of a Category I, ~~or II, or III~~ wetland shall not be less than 75% ~~percent of~~
- 2 the widths established under WCC [16.16.630](#); or 50 feet, whichever is greater;
- 3 E. The minimum buffer width of a Category ~~III or~~ IV wetland shall not be less than 50% ~~percent of~~
- 4 the widths established under WCC [16.16.630](#); or 25 feet, whichever is greater; and
- 5 F. The buffer has not been reduced in accordance with WCC [16.16.640](#). Buffer averaging is not allowed
- 6 if the buffer has been reduced.

Commented [TAC115]: To be consistent with DOE guidance, which is based on BAS.

**16.16.660 Standards—Wetland buffer increases.**

The technical administrator shall have the authority to increase the width of the standard buffer width on a case-by-case basis when there is sound evidence that a larger buffer is required by an approved habitat management plan as outlined in WCC [16.16.750](#), or such increase is necessary to:

- 11 A. Protect the function and value of that wetland including, but not limited to, compensating for a
- 12 poorly vegetated buffer or a buffer that has a steep slope (greater than 30% ~~percent~~); or
- 13 B. Prevent windthrow damage; or
- 14 C. Maintain viable populations of species such as herons and other priority fish and wildlife; or
- 15 D. Protect wetlands or other critical areas from landslides, erosion or other hazards.

**16.16.670 Review and reporting requirements.**

~~A. Review Process for Non-Single-Family Development.~~ When County critical area maps or other sources of credible information indicate that a site proposed for development or alteration may contain or abut wetlands or wetland buffers, the technical administrator may require a site evaluation (~~reconnaissance field investigation~~) or [critical area assessment report](#) by a qualified professional to determine whether or not a regulated wetland is present and, if so, its relative location in relation to the proposed project area or site. If no regulated wetlands are present, then wetland review will be considered complete.

Commented [NRS116]: Review process is the same for all permits

~~A.B.~~ If the technical administrator determines that a wetland is more likely than not present, the technical administrator shall require a wetland assessment report pursuant to WCC [16.16.255](#) and subsection B of this section. ~~If no regulated wetlands are present, then wetland review will be considered complete.~~

~~C.~~ A wetland assessment is an element of a critical area assessment report that describes the characteristics of the subject property and adjacent areas and must be consistent with WCC 16.16.255. The wetland assessment shall include the occurrence, distribution, delineation, and determination of the wetland category and standard wetland buffers as set forth in WCC 16.16.630. ~~The investigation shall also include field identification and a complete delineation of all wetland boundaries (with delineations field flagged and left in the field for County verification),~~ and may include analysis of historical aerial photos, ~~and review of public records, and interviews with adjacent property owners.~~

Commented [NRS117]: Entire wetland must be delineated for review.

Commented [CAC118]: It's hard for staff to verify a delineation if flags aren't left in place.

~~B.D.~~ A wetland assessment reports shall include the following site- and proposal-related information unless the technical administrator determines that any portion of these requirements is already required by Article 2, or unnecessary given the scope and/or scale of the proposed development:

- 1. Location information (legal description, parcel number, and address);
- ~~1-2.~~ A vicinity Map;
- 3. A site plan that includes scale, and wetlands and associated buffers and proposed development if appropriate;
- ~~2-4.~~ A qualitative written assessment and accompanying maps of ~~critical areas~~ wetlands and buffers within 300 feet of the site and an estimate of the existing acreage for each. For on-site wetlands, the assessment shall include the dominant and subdominant plant species; soil type, color and texture; sources of hydrology (patterns of surface and subsurface water movement, precipita-

tion, etc.); topography; and other pertinent information. The assessment of off-site wetlands shall be based on available information and shall not require accessing off-site properties;

3. Existing wetland functions and values and a detailed description of the effects of the proposed development on wetland and buffer function and value, including the area of direct wetland disturbance; area of buffer reduction or averaging including documentation that functions and values will not be adversely affected by the reduction or averaging; effects of stormwater management; proposed hydrologic alteration including changes to natural drainage or infiltration patterns; effects on fish and wildlife species and their habitats; clearing and grading impacts; temporary construction impacts; and effects of increased noise, light or human intrusion;

5. Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, water bodies, etc.; Wetland Analysis. an analysis of all wetlands and buffers (to the extent they can be legally accessed) including, at a minimum, the following information:

i. Wetland delineation conducted by a qualified professional and completed in accordance with WCC 16.16.610(A).

ii. The wetland boundary shall be marked in the field (with flagging left in the field for Whatcom County verification and placed high enough to allow line of sight with vegetation growth) and surveyed using a methodology appropriate to scale of development. The surveyed wetlands areas shall be mapped showing location and size of all wetlands. Methodology used shall be in the report with description of equipment (specs), accuracy, and pertinent description of how the coordinates were gathered.

iii. Determination of each wetland size.

iv. Description of each wetland class and category.

v. Description of overall water sources and drainage patterns on site. Include all streams and drainages (Type S, F, Np, or Ns streams), shorelines, floodplains, flood prone areas

vi. Description of vegetation, hydrologic conditions, and soil and substrate conditions.

vii. Description of wildlife and habitat. Include all critical habitat for threatened and endangered species within 300 feet of the development footprint.

viii. Topographic elevation, at two-foot contours provided by Whatcom County PDS for single family proposals.

ix. Functional assessment of the wetland and adjacent buffer using a local or state agency-recognized method and including the reference of the method and all data sheets.

x. Standard buffer requirements for each wetland. Copies of the wetland rating forms and associated figures from the Ecology Wetland Rating System for Western Washington, as amended

Copies of the wetland rating forms and associated figures from the Ecology Wetland Rating System for Western Washington, as amended. (Ecology Publication No. 14-06-02/04-06-025).

Wetland Determination and Mapping. The exact location of all wetland boundaries shall be determined through the performance of a field investigation by a qualified wetland professional applying the U.S. Army Corps of Engineers Wetlands Delineation Manual, 1987 Edition, and the Western Mountains, Valleys, and Coast Region supplement (Version 2.0) 2010 or as revised Washington State Wetlands Identification and Delineation Manual as required by RCW

36.70A.175 (Ecology Publication No. 96-94). The wetland boundary shall be marked in the field and surveyed. The surveyed wetlands areas shall be mapped showing location and size of all wetlands. The Technical Administrator may request verification of the wetland delineation by the Army Corps of Engineers when a high degree of accuracy is necessary to determine applicable regulations and requirements.

Wetland Delineation Requirements. The following are required components of a wetland delineation report:

Commented [CAC119]: Use of the figures has always been required by ECY, though they are often overlooked. Mentioning it here was thought to be more helpful to the code users.

Commented [CAC120]: The publication number has changed.

Commented [CAC121]: This manual is now used.

Commented [WSDOT122]: WSDOT pointed out an old reference; already changed in other places.

~~The report shall be prepared by a qualified professional for wetlands, who meets the minimum requirements as defined in this chapter~~

~~Maps. The wetland delineation report shall include the following maps:~~

- ~~—Vicinity map.~~
- ~~—Parcel map, with scale, showing all wetlands within 300 feet of the development footprint unless access is denied in writing by the adjacent property owner. Parcel map shall include all streams and drainages (Type 1, 2, 3, 4, or 5 streams), shorelines, floodplains, flood-prone areas and critical habitat for threatened and endangered species within 150 feet of the development footprint.~~
- ~~—Topographic map based on city or surveyed data.~~
- ~~—Map of development proposal with accurate scale.~~

~~Wetland Analysis. A wetland delineation report shall provide an analysis of all wetlands and buffers (to the extent they can be legally accessed) within 150 feet of the development footprint including, at a minimum, the following information:~~

- ~~—Wetland delineation.~~
- ~~—The wetland boundaries shall be surveyed by a licensed surveyor or using an equivalent method with an accuracy of plus or minus one foot of a survey.~~
- ~~—Determination of each wetland size.~~
- ~~—Description of each wetland class and category.~~
- ~~—Description of overall water sources and drainage patterns on site.~~
- ~~—Description of vegetation, hydrologic conditions, and soil and substrate conditions.~~
- ~~—Description of wildlife and habitat.~~
- ~~—Topographic elevation, at two-foot contours.~~
- ~~—Functional assessment of the wetland and adjacent buffer using a local or state agency-recognized method and including the reference of the method and all data sheets.~~
- ~~—Standard buffer requirements for each wetland.~~

~~ii. Site plan that includes scale, and wetlands and associated buffers and proposed development~~

~~C. Review Process for single-family development building permits. - The following options shall apply when development of a single family dwelling is proposed on a site that contains wetlands or wetland buffers:~~

~~D.E. An assessment report shall be required when the single family dwelling and associated features are proposed within the wetland or standard buffer of a regulated wetland. The applicant may hire a qualified professional to prepare the assessment report or may request that the County assess the regulated wetland(s) and buffers and determine the impacts associated with the project, subject to the following:~~

- ~~1. Field investigation by County staff shall be at the discretion of the technical administrator and subject to workload and scheduling constraints.~~
- ~~2. Fees for County staff services shall be in accordance with the unified fee schedule.~~
- ~~3. When the proposed single family dwelling and associated features are located outside the standard buffer required under WCC 16.16.630 (no encroachment), no assessment report shall be required.~~

~~E.F. If a regulated wetland buffer from a neighboring property extends onto a proposed development site for which review under this chapter is required, the technical administrator shall have the authority to have the authority to require that deterrent devices (e.g., split rail fence or permanent, clearly visible wetland buffer signs) be placed at the edge of the buffer in accordance with WCC 16.16.265. The applicant shall provide written documentation that no buffer encroachment will occur. The documentation shall be in the form of a letter or similar affidavit.~~

Commented [WSDOT123]: WSDOT pointed out that access may not be legally available.

Commented [EP124]: Recommended by staff so as to specify what should be contained in a wetland report, making it clear for applicants and consultants.

Commented [NRS125]: Too wordy; shorted for brevity.

Commented [NRS126]: This is true for all development.

Commented [CAC127]: To provide more options to applicants.

Commented [NRS128]: Deleted for brevity. The reference provided explains what they are.

1 **16.16.680 Standards—Wetland Mitigation.**

2 In addition to the applicable general protective measures found in WWC 16.16.265, Aactivities that ad-  
 3 versely affect wetlands and/or wetland buffers shall include mitigation sufficient to achieve no net loss  
 4 of wetland function and values in accordance with WCC [16.16.260](#) and this section.

5 A. In determining the extent and type of mitigation required, the technical administrator ~~shall~~may ~~may~~  
 6 consider all of the following when applicable:

- 7 1. The ecological processes that affect and influence critical area structure and function within the  
 8 watershed or sub-basin;
- 9 2. The individual and cumulative effects of the action upon the functions of the critical area and  
 10 associated watershed;
- 11 3. Observed or predicted trends regarding the gains or losses of specific wetland types in the wa-  
 12 tershed, in light of natural and human processes;
- 13 4. The likely success of the proposed mitigation measures;
- 14 5. Effects of the mitigation actions on neighboring properties; and
- 15 6. Opportunities to implement restoration actions formally identified by an adopted shoreline res-  
 16 toration plan, watershed planning document prepared and adopted pursuant to Chapter [90.82](#)  
 17 RCW, a watershed plan prepared pursuant to Chapter [400-12](#) WAC, a salmonid recovery plan or  
 18 project that has been identified on the Watershed Management Salmon Recovery-Board Habitat  
 19 Project List or by the Washington State Department of Fish and Wildlife as essential for fish and  
 20 wildlife habitat enhancement, a fully authorized mitigation bank ([§16.16.260\(f\)](#)), or an in lieu fee  
 21 program.

22 B. Type of Mitigation.

- 23 1. Wetland Alterations. Compensatory mitigation projects shall restore, create, rehabilitate, en-  
 24 hance, and/or preserve equivalent wetland functions and values pursuant to no net loss of func-  
 25 tion and area. Compensation for wetland alterations shall occur in the following order of prefer-  
 26 ence:  
 27 a. Reestablishing (also referred to as restoring) wetlands on upland sites that were formerly  
 28 wetlands.  
 29 b. Creating wetlands on disturbed upland sites such as those consisting primarily of nonnative,  
 30 invasive plant species.  
 31 c. Rehabilitation of existing wetlands for the purposes of repairing or restoring natural and/or  
 32 historic hydrologic functions.  
 33 d. Enhancing existing significantly degraded wetlands.  
 34 e. Preserving Category I or II wetlands that are under imminent threat; provided, that preser-  
 35 vation shall only be allowed in combination with other forms of mitigation and when the  
 36 technical administrator determines that the overall mitigation package fully replaces the  
 37 functions and values lost due to development.

38 2. Buffer Alterations. Compensatory mitigation for buffer impacts:

- 39 a. Shall be consistent with WCC 16.16.630, 640, 650, and 660; and,
- 40 f.b. May include enhancement of degraded buffers by planting native species, removing struc-  
 41 tures and impervious surfaces within buffers, and other measures to achieve equivalent or  
 42 greater buffer functions.

43 C. Mitigation Ratios.

- 44 1. Compensation for wetland buffer impacts shall occur at a minimum 1:1 ratio on an area basis.
- 45 2. Compensatory mitigation for wetland alterations shall be based on the wetland category and  
 46 the type of mitigation proposed. The replacement ratio shall be determined according to  
 47 the ratios provided in ~~the table below~~ Table 2; provided, that the replacement ratio for preser-  
 48 vation shall be 10 times the ratio for reestablishment or creation. The created, reestablished,

1 rehabilitated, or enhanced wetland area shall, at a minimum, provide a level of function equiva-  
 2 lent to the wetland being altered and shall be located in an appropriate landscape setting.

Replacement Ratio <sup>2</sup>			
Wetland Category	Reestablishment or Creation	Rehabilitation	Enhancement Only
Category I	No alteration allowed unless an Essential Public Facility		
Category II	3:1	6:1	12:1
Category III	2:1	4:1	8:1
Category IV	1.5:1	3:1	6:1

\*Ratio is the replacement area: impact area

Commented [TAC129]: Replaced by Table 2, based on new DOE standards.

3 3. The mitigation ratios noted above in Table 2 shall not apply to mitigation banks as defined by  
 4 this chapter. Credit and debit procedures for mitigation banks shall be determined in accord-  
 5 ance with the mitigation banking provisions outlined in WCC 16.16.260(F).

6 **Table 2. Mitigation ratios for projects in western Washington<sup>2</sup>**

Category and Type of Wetland Impacts	Re-establishment or Creation	Rehabilitation Only	Re-establishment or Creation (R/C) and Rehabilitation (RH)	Re-establishment or Creation (R/C) and Enhancement (E)	Enhancement Only
All Category IV	1.5:1	3:1	1:1 R/C and 1:1RH	1:1 R/C and 2:1 E	6:1
All Category III	2:1	4:1	1:1 R/C and 2:1 RH	1:1 R/C and 4:1 E	8:1
Category II Estuarine	Case-by-case	4:1 Rehabilitation of an estuarine wetland	Case-by-case	Case-by-case	Case-by-case
All other Category II	3:1	6:1	1:1 R/C and 4:1 RH	1:1 R/C and 8:1 E	12:1
Category I	No alteration allowed unless an Essential Public Facility				

Commented [CAC130]: New table based on new DOE guidance. It was felt that this table allows a greater combination of mitigation types. The ratios remain pretty much the same.

7 D. ~~Replacement~~ Re-established or created wetlands established pursuant to these mitigation provi-  
 8 sions shall have adequate buffers to ensure their protection. The buffer shall be based on the cate-  
 9 gory of the reestablished, created, rehabilitated, enhanced, or preserved wetland; ~~provided, that~~  
 10 ~~the technical administrator shall have the authority to approve a smaller buffer when existing site~~  
 11 ~~constraints (such as a road) prohibit attainment of the standard buffer. Replacement wetlands shall~~  
 12 ~~not create buffer encumbrances on adjoining properties.~~  
 13 E. The technical administrator shall have the authority to adjust the replacement ratios when one or  
 14 more of the following apply:  
 15 1. When a combination of mitigation approaches is proposed. In such cases, the area of altered  
 16 wetland shall be replaced at a 1:1 ratio through reestablishment or creation, and the remainder  
 17 of the area needed to meet the ratio can be replaced by enhancement or rehabilitation using  
 18 Table 2, at a 2:1 ratio. For example, impacts to one acre of a Category II wetland requiring a 3:1

Commented [TAC131]: Deleted because it is not appropriate to require one person to have less buffer requirement than another just because they chose a more constrained site. If there is not enough room on a site for the full mitigation buffer, then they need to find additional mitigation in another location or go to the bank for the remaining area.

<sup>2</sup> From *Wetlands in Washington, Volume 2, Appendix 8C, Guidance on Widths of Buffers and Ratios for Compensatory Mitigation for Use with the Western Washington Wetland Rating System, Table 8C-11.*

~~ratio for creation can be compensated by creating one acre and enhancing four acres (instead of the additional two acres of creation that would otherwise be required).~~

2. When the project proponent has a demonstrated ability, based on past performance, to successfully design, construct, monitor and maintain wetland mitigation projects/sites.
3. ~~When use of the guidance for Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington (Department of Ecology Publication #10-06-011, as amended) results in a lower mitigation ratio than the standard ratios. When meeting the required ratios would adversely affect other natural and valuable characteristics of an otherwise appropriate and suitable mitigation site.~~
4. ~~The ratios reduced pursuant to subsections (E)(2) and (3) of this section shall be at least 60 percent of the standard ratios listed in subsection (C)(2) of this section and shall not be less than a 1:1 ratio.~~

**Commented [TAC132]:** Reducing the standard ratios should be based on the degree of impacts and whether functions are being replaced, not on the size of the mitigation site. If the ratios are too small, and functions are not being adequately replaced, the mitigation bank should be considered for the remainder of credits.

- F. Compensatory mitigation shall be provided on-site or off-site in the location that will provide the greatest ecological benefit and have the greatest likelihood of success; provided, that mitigation occurs as close as possible to the impact area and within the same watershed as the permitted alteration. This provision may be waived upon demonstration through a watershed- or landscape-based analysis that mitigation within an alternative sub-basin of the same basin would have the greatest ecological benefit and the greatest likelihood of success; provided, that limiting functions shall not be removed from sensitive watersheds identified in WCC Title 20. Mitigation shall occur within WRIA 1 or 3.
- G. All mitigation areas shall be protected and managed to prevent degradation and ensure permanent protection of critical area functions and values ~~into perpetuity~~. Permanent protection shall be achieved through deed restriction or other protective covenant in accordance with WCC 16.16.265.
- H. Where feasible, mitigation projects shall be completed prior to activities that will disturb wetlands. 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 technical administrator may adjust the timing requirements to allow grading, planting, and other activities to occur during the appropriate season(s).

**16.16.690 Standards – Compensatory Wetland Mitigation Plan.**

- A. In addition to meeting the requirements of WCC 16.16.260(B), a compensatory mitigation plan for wetland and wetland buffer impacts shall meet the following requirements:
  1. ~~Provide an analysis of existing wetland functions and values and a detailed description of the effects of the proposed development on wetland and buffer function and value, including the area of direct wetland disturbance, area of buffer disturbance, area of buffer reduction, and area of buffer averaging, including documentation that the functions and values will be increased through reduction or average; effects of stormwater management; proposed hydrologic alteration including changes to natural drainage or infiltration patterns; effects on fish and wildlife species and their habitats; clearing and grading impacts; temporary construction impacts; and effects of increased noise, light, and human intrusion.~~
  - 1.2. The plan shall be based on applicable portions of the Washington State Department of Ecology’s Guidelines for Developing Freshwater Wetland Mitigation Plans and Proposals, 2004, or other appropriate guidance document that is consistent with best available science.
  - 2.3. The plan shall contain sufficient information to demonstrate that the proposed activities are logistically feasible, constructible, ecologically sustainable, and likely to succeed. Specific information to be provided in the plan shall include:
    - a. The rationale for site selection;

- 1 b. General goals of the plan, including wetland function, value, and acreage;  
2 c. Description of baseline (existing) site conditions including topography, vegetation, soils, hydrology, habitat features (i.e., snags), surrounding land use, and other pertinent information;  
3  
4  
5 d. Field data confirming the presence of adequate hydrology (surface and/or groundwater) to support existing and compensatory wetland area(s);  
6  
7 e. Nature of mitigation activities, including area of restored, created, enhanced, rehabilitated and preserved wetland, by wetland type;  
8  
9 f. Detailed grading and planting plans showing proposed post-construction topography; general hydrologic patterns; spacing and distribution of plant species; size and type of proposed planting stock; watering or irrigation plans; and other pertinent information;  
10  
11 g. A description of site treatment measures including invasive species removal, use of mulch and fertilizer, placement of erosion and sediment control devices, and best management practices that will be used to protect existing wetlands and desirable vegetation;  
12  
13  
14 h. A demonstration that the site will have adequate buffers sufficient to permanently protect the wetland functions ~~in perpetuity~~.  
15  
16  
17 B. All compensatory mitigation projects shall be monitored in accordance with WCC [16.16.260\(C\)](#) for a period necessary to establish that performance standards have been met. The technical administrator shall have the authority to extend the monitoring period for up to 10 years and require additional monitoring reports when any of the following conditions apply:  
18  
19  
20  
21 1. The project does not meet the performance standards identified in the mitigation plan.  
22  
23 2. The project does not provide adequate replacement for the functions and values of the impacted critical area.  
24  
25 3. The project involves establishment of forested plant communities, which require longer time for establishment.  
26  
27 C. Reports shall be submitted annually for the first three years following construction and at the completion of years five, seven and 10 if applicable to document milestones, successes, problems, and contingency actions of the compensatory mitigation.  
28

**ARTICLE 7. HABITAT CONSERVATION AREAS (HCA)**

**16.16.700 Purpose.**

The purposes of this article are to:

- A. ~~Protect, and restore, and maintain~~ native fish and wildlife populations, ~~especially populations of anadromous fish species,~~ by protecting and conserving valuable fish and wildlife habitat and protecting the ecological processes, functions and values, and biodiversity that sustain these resources.
- B. Protect marine shorelines, valuable terrestrial habitats, lakes, and ponds, and natural rivers, and streams and their associated riparian areas, and the ecosystem processes on which these areas depend.
- C. Regulate development so that isolated populations of species are not created and habitat degradation and fragmentation are avoided/minimized, ~~especially along riparian corridors.~~
- D. Maintain the natural geographic distribution, connectivity, and quality of fish and wildlife habitat and ensure no net loss of such important habitats, including cumulative impacts.

**16.16.710 Habitat Conservation Areas – Designation, Mapping, and Classification – ~~Habitat conservation areas.~~**

- A. Habitat conservation areas, as defined in Article 9, are those areas identified as being of critical importance to the maintenance of certain fish, wildlife, and/or plant species. These areas are typically identified either by known point locations of specific species (such as a nest or den) or by habitat areas or both. All areas within the County meeting these criteria are hereby designated critical areas and are subject to the provisions of this article ~~(see also Appendix D of this chapter).~~
- B. The approximate location and extent of identified fish, ~~and~~ wildlife, and sensitive plant habitat areas are shown on the County’s critical area maps as well as state and federal maps. ~~¶ However, these maps are to be used as a guide and do not provide a definitive critical area determination; each applicant is responsible for having a property-specific determination made pursuant to Article 2.~~ The County shall update the maps as new fish and wildlife habitat conservation areas are identified and/or more comprehensive information on function, condition, cover type, and resolution is developed.

C. ~~For purposes of this chapter, h~~abitat conservation areas shall include all of the following:

1. Streams<sup>3</sup>.

- a. All streams which meet the criteria for Type S, F, Np or Ns waters as set forth in WAC 222-16-030 of the Washington Department of Natural Resources (DNR) Water Typing System, as now or hereafter amended.
  - (i) Type S Streams are those surface waters which meet the criteria of the Washington Department of Natural Resources, WAC 222-16-030(1) as now or hereafter amended, as a Type S Water and are inventoried as “Shorelines of the State” under the Shoreline Management Master Program for Whatcom County, pursuant to RCW Chapter 90.58. Type S waters contain salmonid fish habitat.
  - (ii) Type F Streams are those surface waters, which meet the criteria of the Washington Department of Natural Resources, WAC 222-16-030(2) as now or hereafter amended, as Type F Water. Type F streams contain habitat for salmonid fish, game fish and other anadromous fish.

**Commented [DOC133]:** Recommended by Dept. of Commerce

**Commented [CAC134]:** The County Council has endorsed the WRIA 1 Salmonid Recovery Plan and is committed to implement actions under the plan as part of the Puget Sound Chinook Recovery plan under the ESA. The goal of the plan is to restore self-sustaining salmon populations that result in de-listing and which will support a harvestable surplus. Current spring Chinook, bull trout, and steelhead populations are critically low. Most other salmonid populations, such as Lake Whatcom kokanee salmon and Lake Whatcom cutthroat trout are also depressed so “maintaining” a depressed population is not the purpose we should state.

**Commented [CAC135]:** Lakes and ponds fall into the HCA category but we’re not explicitly noted.

**Commented [CAC136]:** For clarity.

**Commented [TAC137]:** There has been much misunderstanding of the differences between ditches and ditched streams; some ditches are considered streams even though they may or may not contain fish. This footnote just forewarns the reader to read the definitions.

<sup>3</sup>Note that ditched channels may or may not meet the definition of a stream. See Article 09, Definitions.

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(iii) Type Np Streams are those surface waters, which meet the criteria of the Washington Department of Natural Resources, WAC 222-16-030(3) as now or hereafter amended, as Type Np Water. Type Np waters do not contain fish habitat.

(iv) Type Ns Streams are those surface waters, which meet the criteria of the Washington Department of Natural Resources, WAC 222-16-030(4) as now or hereafter amended, as a Type Ns Water. These streams are areas of perennial or intermittent seepage, ponds, and drainage ways having short periods of spring or storm runoff. Type Ns waters do not contain fish.

b. Ditches or other artificial water courses are considered streams for the purposes of this Chapter, when:

(i) Used to convey natural streams existing prior to human alteration; and/or,

(ii) The waterway is used by anadromous or resident salmonid or other resident fish populations; or

(i) Flows directly into shellfish habitat conservation areas. Streams, as defined in Article 9, shall be designated according to the following criteria:

(ii) Shoreline streams are those streams identified and regulated as shorelines of the state as defined by WAC 173-18-410 and designated in the Whatcom County Shoreline Master Program (WCC Title 23).

(iii) Other fish bearing streams that do not meet the definition of shorelines of the state but have current, historic, known or potential use by anadromous or resident fish species. The technical administrator shall make determinations of known or potential fish use in consultation with federal, state, and tribal biologists and in accordance with best available science, and shall take into consideration factors such as Factors of consideration when determining a stream as fish bearing include but are not limited to species life cycle requirements, habitat suitability, channel gradient, presence or lack of fish passage barriers, stocked fish populations by government or tribal entities, and/or a reasoned evaluation of current, historic, and potential fish use by a qualified professional.

Non fish bearing streams are those streams that have no current, historic, known or potential use by anadromous or resident fish.

(iv)(iii) Streams do not include drainage ditches as defined in Article 9.

2. Areas with in which federally and/or state listed species are found, have a primary association with, or contain suitable habitat for said listed species, as listed in the US Fish & Wildlife's Threatened & Endangered Species List or Critical Habitat List (<http://ecos.fws.gov/ecp/>), as amended have a primary association.

4.3. Areas in which state listed priority species are found, have a primary association with, or contain suitable habitat for said listed species, as listed Washington Department of Fish and Wildlife's Priority Habitats and Species list (<http://wdfw.wa.gov/mapping/phs/> or <http://wdfw.wa.gov/conservation/phs/list/>), as amended.

2.4. State priority habitats and areas associated with state priority species as listed in Washington Department of Fish and Wildlife's Priority Habitats and Species list (<http://wdfw.wa.gov/mapping/phs/> or <http://wdfw.wa.gov/conservation/phs/list/>), as amended.

5. Areas in which state listed rare plant species are found, or contain suitable habitat for said listed species, as listed in the Department of Natural Resources' Natural Heritage Program (<http://www1.dnr.wa.gov/nhp/refdesk/plants.html>), as amended.

Commented [CAC138]: WDFD considers historic fish use in making a determination

Commented [CAC139]: In lieu of including the listed species and habitats (which change over time) in an appendix (which can't change without a code amendment as the lists change), the TAC recommended just adopting those lists. PDS will keep a current list of those spp and habitats found in WC on line and at the counter for customers' convenience.

3-6. Areas in which state listed saltwater critical areas are found, as listed in WAC 173-26-221(2)(c)(iii)(A) ~~Commercial and recreational shellfish areas, including designated Shellfish Habitat Conservation Areas.~~

4. ~~Kelp and eelgrass beds.~~

5. ~~Documented and potential Surf smelt, Pacific herring, and Pacific sand lance spawning areas of forage fish, including but not limited to: surf smelt, Pacific herring, Pacific sand lance, northern anchovy, and longfin smelt.~~

6-7. ~~Naturally occurring ponds and lakes or manmade ponds and lakes (created prior to September 30, 2005, excluding agricultural, fire protection, and stormwater facilities) under 20 acres in size or manmade ponds and lakes under 20 acres in size and created prior to September 30, 2005, excluding agricultural, fire protection, and stormwater facilities. In-stream ponds shall be regulated based on associated stream type.~~

7-8. ~~Naturally occurring lakes over 20 acres and oAll other waters defined as Waters of the State, including marine waters, and waters planted with game fish by a government or tribal entity.~~

9. ~~Natural Area Preserves, Aquatic Reserves, and Natural Resource Conservation Areas as defined by the Washington Department of Natural Resources.~~

8-10. ~~Portions of the San Juan Islands National Monument within Whatcom County (including Chuckanut Rock, tip of Eliza Island, Eliza Island Rocks, Lummi Rocks, Baker's Reef, Carter Point, Carter Point Rock, and Seal Rock at the North end of Lummi Island, and subsequently designated areas).~~

11. ~~Frequently Flooded Areas that are subject to the Federal Emergency Management Agency's National Flood Insurance Program Biological Opinion (FEMA BiOp).~~

9-12. ~~Species and Habitats of Local Importance.~~ Locally important species and habitats that have recreational, cultural, and/or economic value to citizens of Whatcom County, including the following:

a. Species.

— ~~The Department of Planning and Development Services is authorized to shall maintain a current list of Species of Local Importance as designated by the County Council. As of 2016 the list includes:~~

— ~~Osprey;~~

— ~~Turkey Vulture;~~

— ~~Nooksack dace;~~

i. ~~Salish sucker.~~

    i. ~~Osprey;~~

    ii. ~~Turkey vulture;~~

    iii. ~~Nooksack dace;~~

    iv. ~~Salish sucker.~~

a-b. Habitats.

i. The marine nearshore habitat, including coastal lagoons, and the associated vegetated marine riparian zone. These areas support productive eelgrass beds, marine algal turf, and kelp beds that provide habitat for numerous priority fish and wildlife species including, but not limited to, forage fish, seabird and shorebird foraging and nesting sites, and harbor seal pupping and haulout sites. This designation applies to the area from the extreme low tide limit to the ordinary high water mark upper limits of the shoreline jurisdiction; provided, that reaches of the marine shoreline that were lawfully developed for commercial and industrial uses prior to the original adoption of this chapter may be excluded from this designation, but not otherwise exempt from this chapter. See Appendix E A of this chapter.

Commented [TAC140]: Commercial and rec shellfish areas are designated SHCAs.

Commented [TAC141]: There are more than just the three species of forage fish that are listed.

Commented [CAC142]: Manmade ponds added because there are a lot of older ponds that have naturalized and become important habitat. Ponds that derive their water from streams are no longer allowed to be created per WDFW and CAO regs, thus any ponds created after 9/30/05 would be illegal. The date was chosen because 9/30/05 is 10 days after the Exec signed Ord 2005-068, which contains the first instance of this section. Also added "fire protection" ponds as an exemption.

However, the CAC recommends against adding them because they were constructed as landscape (or other purpose) features, and should not be subject to CAO rules.

Commented [TAC143]: Updated the list of what parts of the San Juan Islands National Monument are within Whatcom County, and thus protected.

Commented [CAC144]: To help implement the FEMA BiOp.

Commented [CAC145]: This section is odd, as the dace and sucker are already on the WDFW priority species list, and thus are protected anyways. No one knows where this list came from, and the TAC questions the inclusion of osprey and turkey vulture. (Lists in previous versions of the CAO was longer, but it appears that spp. were removed once they appeared on WDFW's PHS lists. Furthermore, without specific management plans different than what WDFW already recommends, staff can't impose any additional restrictions than what's already required by this Article. Thus, it was proposed by the TAC and CAC to delete all the species currently listed, keep the listing criteria, and let staff have the ability to keep a list were the Council to add any to it.

Staff has reached out to local wildlife agencies and groups for input, but had only one response, from The Wildlife Society, to add red-tailed hawks. However, they weren't able to pull all the information together to meet the criteria for listing a species of local importance (section D). The Wildlife Advisory Committee would be a good venue to study whether there ought to be any other spp. on the list, and/or to manage the process for adding others as outlined in D.

The P/C voted to keep these species on this list.

1 ~~ii. Identified Roosevelt elk wintering and calving grounds;~~

2 ~~iii. Unique natural plant communities designated by the Washington Department of Natural~~  
3 ~~Resources;~~

4 ~~iv.ii. The Chuckanut wildlife corridor, which extends east from Chuckanut Bay and adjacent~~  
5 ~~marine waters, including Chuckanut Mountain, Lookout Mountain, the northern por-~~  
6 ~~tions of Anderson Mountain, and Stewart Mountain continuing along the southern~~  
7 ~~Whatcom County border to Mount Baker/Snoqualmie National Forest boundary,~~  
8 ~~Mountain including Lookout Mountain, Stewart Mountain, and the northern portions~~  
9 ~~of Anderson Mountain to Chuckanut Bay and the adjacent marine waters and This ar-~~  
10 ~~ea represents the last remaining place in the Puget Trough where the natural land~~  
11 ~~cover of the Cascades continues to the shore of Puget Sound. See Appendix E of this~~  
12 ~~chapter.~~

13 ~~iii. The Department of Planning and Development Services is authorized to shall maintain~~  
14 ~~a current list and map of Habitats of Local Importance, as designated by the County~~  
15 ~~Council.~~

16 D. In addition to the species, habitats, and wildlife corridors identified in subsection (C)(~~1014~~) of this  
17 section, the ~~County Council~~ may designate additional species, habitats of local importance, and/or  
18 wildlife corridors as follows:

19 1. In order to nominate an area, species, or corridor to the category of "locally important," an indi-  
20 vidual or organization must:

21 a. Demonstrate a need for special consideration based on:

- 22 i. ~~D~~Identified species of declining population;
- 23 ii. ~~S~~Documented species sensitivity to habitat manipulation and cumulative loss;
- 24 iii. Commercial, recreational, cultural, or, biological, other special value; or
- 25 iv. Maintenance of connectivity between habitat areas;

26 b. Propose ~~conceptual~~ relevant management strategies considered effective and within the  
27 scope of this chapter;

28 c. Identify ~~the general~~ effects on property ownership and use; and

29 d. Provide a map showing the species or habitat location(s).

30 2. Submitted proposals shall be reviewed by the County and may be forwarded to the State De-  
31 partments of Fish and Wildlife, Natural Resources, and/or other local, state, federal, and/or trib-  
32 al agencies or experts for comments and recommendations regarding accuracy of data and ef-  
33 fectiveness of proposed management strategies.

34 3. If the proposal is found to be complete, accurate, and consistent with the purposes and intent of  
35 this chapter and the various goals and objectives of the Whatcom County comprehensive plan  
36 and the Growth Management Act, the County Council will hold a public hearing to solicit com-  
37 ment. Approved nominations will become designated locally important habitats, species, or cor-  
38 ridors and will be subject to the provisions of this chapter.

39 3.4. The Council may remove species, habitats, or corridors from this list if it can be shown that there  
40 is no longer a need to provide protection above and beyond that afforded by WDFW manage-  
41 ment strategies. Species and habitats of local importance that are not regulated elsewhere in  
42 this chapter may be removed if sufficient evidence has been provided by qualified professionals  
43 that demonstrates that the species no longer meets any provisions of 16.16.710(D)(1)(a)."

Commented [TAC146]: Don't need to list here, as it's included in C.4.

Commented [CAC147]: Don't need to list here, as it's included in C.5.

Commented [TAC148]: Action: Add to map in Appx E

Commented [TAC149]: Improved the description of the boundary.

Commented [P/C150]: The P/C thought it a good idea to specify how something comes off the list.

44 **16.16.720 Habitat Conservation Areas – General Standards.**

45 The following activities may be permitted in habitat conservation areas and/or their buffers when, pur-  
46 suant to WCC 16.16.255 and 16.16.260 Article 2, all reasonable measures have been taken to avoid ad-  
47 verse effects on species and habitats, any applicable Washington Department of Fish and Wildlife man-

1 ~~agement recommendations have been applied,~~ compensatory mitigation is provided for all adverse im-  
 2 pacts that cannot be avoided, and the amount and degree of the alteration are limited to the minimum  
 3 needed to accomplish the project purpose; provided, that locally important species and habitats shall be  
 4 subject to WCC 16.16.730:

**Commented [NRS151]:** Recommended by DOC, since the code doesn't require this otherwise.

5 A. Developments that meet the reasonable use and variance standards set forth in WCC 16.16.270.  
 6 B. Relocation of streams, or portions of streams, when there is no other feasible alternative and when  
 7 the relocation will result in equal or better habitat and water quality and quantity, and will not di-  
 8 minish the flow capacity of the stream or other natural stream processes; provided, that the reloca-  
 9 tion meets state hydraulic project approval requirements and that relocation of shoreline streams  
 10 shall be prohibited unless the relocation has been identified formally by the Washington State De-  
 11 partment of Fish and Wildlife as essential for fish and wildlife habitat enhancement or identified in  
 12 watershed planning documents prepared and adopted pursuant to Chapter 90.82 RCW, the WRIA 1  
 13 Salmonid Recovery Plan or the WRIA 1 Watershed Management Salmon Recovery Board Habitat  
 14 Project List or County shoreline restoration plan.

15 C. ~~Stream, Road, trail, bridge, and right of way~~ crossings, provided they meet all the following criteria:  
 16 1. There is no other feasible alternative route with less impact on critical areas.  
 17 2. The crossing minimizes interruption of natural processes such as channel migration, the down-  
 18 stream movement of wood and gravel, and the movement of all fish and wildlife. Bridges are  
 19 preferred for all stream crossings and should be designed to maintain the existing stream sub-  
 20 strate and gradient, span the bankfull width, or be proven to not have an appreciable increase in  
 21 backwater elevation at the minimum of a 100-year event and provide adequate horizontal  
 22 clearance on each side of the ordinary high water mark, and provide adequate vertical clearance  
 23 for debris likely to be encountered at high water above the ordinary high water mark.

**Commented [CAC152]:** Typical design standards for bridges these days to ensure bridges don't get clogged with debris during floods. Language from WAC 220-660-190(4).

24 3. Culverts shall be designed according to applicable state and federal guidance criteria for fish  
 25 passage as identified in Water Crossing Design Guidelines, WDFW 2013, as amended Fish Pas-  
 26 sage Design at Road Culverts, WDFW, March 1999, and/or the National Marine Fisheries Service  
 27 Guidelines for Salmonid Passage at Stream Crossings, 2000, (and subsequent revisions) and in  
 28 accordance with a state hydraulic project approval. The applicant or property owner shall main-  
 29 tain fish passage through the bridge or culvert.

**Commented [CAC153]:** Name has changed

30 4. The County may require that existing culverts be removed, replaced, or fish passage barrier sta-  
 31 tus corrected as a condition of approval if the culvert is detrimental to fish passage or water  
 32 quality, and a feasible alternative exists.

33 ~~5. Culvert crossings shall be limited to the minimum length/width necessary. Roadway widths at~~  
 34 ~~culvert crossings shall be limited to the minimum width necessary to accommodate the road-~~  
 35 ~~way's classification. Culvert length shall be the minimum that is compatible with the roadway~~  
 36 ~~width.~~

**Commented [CAC154]:** Culvert length corresponds to the width of the road. The idea is that the length of the culvert should be as short as possible.

37 ~~5-6. Shared~~ common crossings are the preferred approach where multiple properties can be ac-  
 38 cessed by one crossing.

**Commented [P/C155]:** The P/C wanted to make it clear that not only the culvert but the actual road is the minimum width necessary while at the same time allowing for future installation of walkways, bikeways, etc., that may be added in the future.

39 D. Access to private development sites may be permitted to cross habitat conservation areas if there  
 40 are no feasible alternative alignments. Alternative access shall be pursued to the maximum extent  
 41 feasible, including through the provisions of Chapter 8.24 RCW. Exceptions or deviations from tech-  
 42 nical standards may be considered by the Technical Administrator on a case-by-case basis where the  
 43 resulting outcome reduces overall impacts to any identified Critical Area, for width or other dimen-  
 44 sions, and specific construction standards to minimize impacts may be specified, including place-  
 45 ment on elevated structures as an alternative to fill, if feasible.

46 E. Construction ~~of a structure or improvements,~~ other than a building, ~~that is~~ are associated with an  
 47 agricultural use in the outer 25% of the CPAL designated buffer, or the reconstruction, remodeling,

**Commented [NRS156]:** While some ag structures may be OK within buffers, buildings should not be placed there, esp. when CPAL buffers can change over time with the type of ag being done.

**Commented [NRS157]:** CPAL allows for reduced buffers; this should be part of the Farm Plan.

- 1 or maintenance of such structures in a habitat conservation area buffer, subject to all of the follow-
- 2 ing criteria:
- 3 1. The structure is located within an existing lot of record and is an existing-ongoing agricultural
- 4 use.
- 5 2. There is no other feasible location with less impact to critical areas. However, this provision
- 6 does not apply to the reconstruction, maintenance and/or remodeling of pre-existing structures.
- 7 3. Clearing and grading activity and impervious surfaces are limited to the minimum necessary to
- 8 accommodate the proposed structure and, where possible, surfaces shall be made of pervious
- 9 materials.
- 10 4. Unavoidable adverse effects on critical areas are mitigated in accordance with this chapter.
- 11 F. Stormwater management facilities limited to detention/retention/treatment ponds, media filtra-
- 12 tion, lagoons and infiltration basins may be permitted in a stream buffer, subject to all of the follow-
- 13 ing standards:
- 14 1. The facility is located in the outer 50% ~~percent~~ of the standard stream buffer and does not dis-
- 15 place or impact a forested riparian community;
- 16 2. There is no other feasible location for the stormwater facility and the facility is located, con-
- 17 structed, and maintained in a manner that minimizes adverse effects on the buffer and adjacent
- 18 critical areas;
- 19 3. The stormwater facility meets applicable County or state stormwater management standards
- 20 and the discharge water meets state water quality standards; and
- 21 4. Low impact development approaches have been considered and implemented to the maximum
- 22 extent feasible.
- 23 G. Stormwater conveyance or discharge facilities such as dispersion trenches, level spreaders, and out-
- 24 falls may be permitted in a habitat conservation area buffer on a case-by-case basis when the tech-
- 25 nical administrator determines that all of the following are met:
- 26 1. Due to topographic or other physical constraints, there are no feasible locations for these facili-
- 27 ties outside the buffer;
- 28 2. The discharge is located as far from the ordinary high water mark as possible and in a manner
- 29 that minimizes disturbance of soils and vegetation, except on shoreline slopes where location
- 30 shall be determined by site characteristics to minimize adverse impacts;
- 31 3. The discharge outlet is designed to prevent erosion and promote infiltration; and
- 32 4. The discharge meets freshwater and marine state water quality standards, including the need to
- 33 evaluate cumulative impacts to 303(d) impaired waterbodies and total maximum daily load
- 34 (TMDL) standards as appropriate at the point of discharge. Standards should include filtration
- 35 through mechanical or biological means, vegetation retention, timely reseeded of disturbed ar-
- 36 eas, use of grass-lined bioswales for drainage, and other mechanisms as appropriate within ap-
- 37 proved stormwater "special districts."
- 38 5. The discharge outlet is designed to exclude fish from entering or migrating into stormwater con-
- 39 veyance systems.
- 40 H. Clearing and grading, when allowed as part of an authorized activity or as otherwise allowed in
- 41 these standards, may be permitted; provided, that the following shall apply:
- 42 1. Grading is allowed only during the designated dry season, which is typically regarded as May to
- 43 October of each year; provided, that the County may extend or shorten the designated dry sea-
- 44 son on a case-by-case basis, based on actual weather conditions. Special scrutiny shall be given
- 45 to Lakes Samish, Padden, and Whatcom watersheds, and Water Resource Special Management
- 46 Areas as described in WCC 20.80.735.
- 47 2. Appropriate erosion and sediment control measures shall be used at all times, consistent with
- 48 Best Management Practices in the Department of Ecology's Stormwater Management Manual

Commented [TAC158]: Need to pay attention to this as well.

Commented [CAC159]: Always required by WDFW for an HPA.

Commented [CAC160]: In WAC 20.80.735.

- 1 [for Western Washington](#). The soil duff layer shall remain undisturbed to the maximum extent  
 2 possible. Where feasible, disturbed topsoil shall be [salvaged and/or](#) redistributed to other areas  
 3 of the site. Areas shall be revegetated as needed to stabilize the site.
- 4 3. The moisture-holding [and infiltration](#) capacity of the topsoil layer shall be maintained by mini-  
 5 mizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all are-  
 6 as of the project area not covered by impervious surfaces.
- 7 I. Streambank stabilization and shoreline protection may be permitted subject to all of the following  
 8 standards:
- 9 [1. The stabilization or protection measures shall be designed in accordance with the techniques](#)  
 10 [contained within the Washington Department of Fish and Wildlife’s most recent Integrated](#)  
 11 [Streambank Protection Guidelines. Deviation from these techniques requires written justifica-](#)  
 12 [tion from a qualified professional/engineer.](#)
- 13 [2.](#) Natural shoreline processes will be maintained to the maximum extent practicable.
- 14 ~~4-3.~~ The activity will not result in increased erosion and will not alter the size or distribution of shore-  
 15 line or stream substrate, or eliminate or reduce sediment supply from feeder bluffs.
- 16 ~~2-4.~~ Stream and shoreline protection and launching ramps on shorelines of the state shall comply  
 17 with WCC Title [23](#) and with state hydraulic project approval requirements.
- 18 ~~3-5.~~ No [adverse impact](#) ~~net loss~~ to ~~critical fish or wildlife~~ Habitat [Conservation](#) Areas or associated  
 19 wetlands will occur.
- 20 ~~4-6.~~ No [net loss](#) ~~alteration~~ of juvenile fish migration corridors will occur.
- 21 ~~5-7.~~ No net loss of intertidal or riparian habitat function will occur.
- 22 ~~6-8.~~ Nonstructural measures, such as placing or relocating the development further from the shore-  
 23 line, planting vegetation, or installing on-site drainage improvements, are not practicable or not  
 24 sufficient.
- 25 ~~7-9.~~ Stabilization is achieved through bioengineering or soft armoring techniques in accordance with  
 26 an applicable Hydraulic Permit [Approval](#) issued by the Washington State Department of Fish and  
 27 Wildlife.
- 28 ~~8-10.~~ Hard bank armoring is discouraged and may occur only when the property contains an  
 29 existing permanent structure(s) that is in danger from shoreline erosion caused by wave action  
 30 or riverine processes and not erosion caused by upland conditions, such as the alteration of nat-  
 31 ural vegetation or drainage, and the armoring shall not increase erosion on adjacent properties  
 32 and shall not eliminate or reduce sediment supply. [An objective alternatives analysis, addressing](#)  
 33 [up- and downstream impacts, shall be conducted to demonstrate that there is no other less en-](#)  
 34 [vironmentally damaging alternatives to the more impacting proposed action.](#)
- 35 ~~9-11.~~ Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific  
 36 or geotechnical analysis, is not a demonstration of need.
- 37 ~~10-12.~~ The bank stabilization or shore protection will not adversely affect habitat conservation  
 38 areas or mitigation will be provided to compensate for adverse effects where avoidance is not  
 39 feasible.
- 40 J. Construction of trails and roadways ~~less than or equal to 30 feet wide~~ may be permitted in a habitat  
 41 conservation area buffer [when not directly related to a crossing and are](#) subject to all of the follow-  
 42 ing standards:
- 43 1. There is no other feasible alternative route with less impact on the critical area.
- 44 2. The road or trail minimizes erosion and sedimentation, hydrologic alteration, and disruption of  
 45 natural processes such as channel migration, wood recruitment and natural wildlife movement  
 46 patterns.

- 1 ~~3.~~ 3. The road or trails through in-riparian (stream) buffers shall be located in the outer 25%0 percent  
 2 of the standard buffer, ~~except for limited viewing platforms and crossings; shall not exceed 12~~  
 3 ~~feet in width and shall be made of pervious material where feasible.~~
- 4 ~~3.4.~~ 3.4. Private trails shall not exceed 454 feet in width, and public trails shall not exceed 10 feet in  
 5 width, and shall be made of pervious material or on an elevated structure where feasible. Trails  
 6 may include limited viewing platforms that shall not exceed 128 feet in width and shall be made  
 7 of pervious materials where feasible.
- 8 ~~4.5.~~ The road or trail is constructed and maintained in a manner that minimizes disturbance of the  
 9 buffer and associated critical areas.
- 10 K. New utility lines and facilities may be permitted when all of the following criteria are met:
- 11 1. Impacts to fish and wildlife habitat and/or corridors shall be avoided to the maximum extent  
 12 possible.
  - 13 2. Where feasible, installation shall be accomplished by boring beneath the scour depth of the  
 14 stream or water body and the width of the channel migration zone where present.
  - 15 3. Trenching of utilities across a stream channel shall be conducted as ~~The utilities shall cross~~  
 16 ~~streams at an angle greater than 60 degrees to the centerline of the channel or~~ perpendicular to  
 17 the channel centerline as possible whenever boring under the channel is not feasible. Utilities  
 18 shall be installed below potential scour depth regardless of method.
  - 19 4. Crossings shall be contained within the footprint of an existing road or utility crossing where  
 20 possible.
  - 21 5. The utility installation shall not increase or decrease the natural rate, extent, or opportunity of  
 22 channel migration.
- 23 L. New public flood protection measures and expansion of existing ones may be permitted, subject to  
 24 WCC Title 17, Article 4 of this chapter and a state hydraulic project approval; provided, that bioengi-  
 25 neering or soft armoring techniques shall be used where feasible. Hard bank armoring may occur  
 26 only in situations where soft approaches do not provide adequate protection.
- 27 M. In-stream structures such as, but not limited to, high-flow bypasses, dams, and weirs, shall be al-  
 28 lowed only as part of a watershed restoration project as defined pursuant to WCC 23.110.230(10) or  
 29 identified in watershed planning documents prepared and adopted under Chapter 90.82 RCW, the  
 30 salmonid recovery plan or Watershed Management Salmon Recovery Board Habitat Project List, and  
 31 the County's shoreline restoration plan and upon acquisition of any required state or federal per-  
 32 mits. The structure shall be designed to avoid adverse effects on stream flow, water quality, or other  
 33 habitat functions and values.
- 34 N. Construction of docks and public launching ramps, and reconstruction, repair, and maintenance of  
 35 docks and public ~~or private or private~~ launching ramps may be permitted subject to the following:
- 36 1. The dock or ramp is located and oriented and constructed in a manner that minimizes adverse  
 37 effects on navigation; wave action, water quality, movement of aquatic and terrestrial life; eco-  
 38 logical processes; ~~eelgrass beds, shellfish beds, spawning~~ critical saltwater habitats, ~~and~~ wet-  
 39 lands, or other critical areas.
  - 40 2. Docks or ramps on shorelines of the state shall comply with WCC Title 23 and state hydraulic  
 41 project approval requirements.
  - 42 3. Natural shoreline processes will be maintained to the maximum extent practicable. The activity  
 43 will not result in increased erosion and will not alter the size or distribution of shoreline or  
 44 stream substrate, or eliminate or reduce sediment supply from feeder bluffs.
  - 45 4. No net loss adverse impact to ~~critical fish or wildlife~~ Habitat Conservation Areas or associated  
 46 wetlands will occur.
  - 47 5. No net loss alteration of juvenile fish migration corridors will occur.
  - 48 6. No net loss of intertidal or riparian habitat function will occur.

Commented [TAC161]: Current WDFW standards

Commented [CAC162]: Deleting the ability to install private launch ramps in HCAs, as all lakes now have public access and no more new private launches should be permitted.

O. On-site sewage disposal systems (OSS) may be permitted in non-aquatic HCA buffers and in the outer 50% of streams or other aquatic HCA buffers when accessory to an approved residential structure for which there are no alternatives and when it is not feasible to connect to a public sanitary sewer system and when operated and maintained in accordance with WCC Chapter 24.05-170; provided, that there are no adverse effects on water quality and slope stability are avoided ~~are avoided~~.

P. Domestic wells serving single-family developments (including plats, short plats, and individual single-family residences) and necessary appurtenances, including a pump and appropriately sized pump house, but not including a storage tank, in HCA buffers when all of the following conditions are met:

1. There is no viable alternative to the well site outside of the buffer and the well is located as far back from the wetland edge as is feasible;
2. Any impacts to the HCA buffer from staging equipment and the well-drilling process are mitigated.

~~P-Q.~~ Single-family developments may be permitted to encroach into stream buffers subject to the technical administrator's approval; provided, that all of the criteria in WCC 16.16.270(A) are met.

~~Q-R.~~ All other developments may be allowed in shellfish protection districts outside of actual shellfish habitats when permitted by zoning with a valid development permit and when the requirements of subsection ~~N-O~~ of this section are met.

~~R-S.~~ Alteration or removal of beaver-built structures more than two years old; provided, that:

1. The property owner can show that the beaver dam is harming or likely to harm his or her property.
- ~~4-2.~~ It has been demonstrated that ~~beaver deceivers or auto leveler devices have been demonstrated to cannot~~ appropriately resolve ponding/backwatering that is negatively affecting adjacent land or property. ~~The applicant demonstrates that nondestructive measures, such as the use of "beaver deceivers" are not feasible.~~
- ~~2-3.~~ Impacts to wetland, river, or stream functions are minimized and mitigation is provided to compensate for lost ecological value.
- ~~3-4.~~ The property owner obtains an HPA from WDFW prior to initiating alteration or removal of the beaver-built structure.
5. The property owner provides a copy of the HPA to the technical administrator.

~~S-T.~~ On Eliza Island, applicants shall complete the U.S. Fish & Wildlife Service (USFWS) self-assessment (<https://www.fws.gov/pacific/eagle/>) to determine whether a USFWS bald eagle permit is needed, and if so, apply for one. Development activities near bald eagle habitat shall be carried out consistent with the national Bald Eagle Guidelines ~~WCC 20.35.653 (Bald eagle management plan) shall also apply.~~

U. Phosphorus reducing BMP structures approved and installed through the Homeowners' Improvement Program (or as may be renamed) within the Lake Whatcom watershed to treat runoff from existing development may be permitted within 25 feet of the lake shoreline.

**16.16.730 Standards—Locally Important Habitats and Species – Standards.**

Alterations that occur within a locally important habitat area or that may affect a locally important species as defined herein shall be subject to review on a case-by-case basis. The technical administrator shall have the authority to require an assessment of the effects of the alteration on species or habitats and may require mitigation to ensure that unmitigated adverse effects do not occur. This standard is intended to allow for flexibility and responsiveness with regard to locally important species and habitats.

**16.16.740 Standards—Habitat Conservation Area Buffers – Standards.**

In addition to the applicable general protective measures found in WWC 16.16.265 and 16.16.720, ~~the~~ technical administrator shall have the authority to require buffers from the edges of all habitat conser-

**Commented [P/C163]:** Added by the P/C to allow wells in an HCA buffer, similar to that allowed in wetland buffers (16.16.620(F)).

**Commented [CES164]:** This section probably had more discussion than any other. There was quite a bit of discussion with both the TAC and CAC on whether to prohibit beaver dam removal. Studies have shown that beaver works do provide a lot of ecological benefit, including water quality, flood prevention, groundwater infiltration, etc., and this is borne out by the Best Available Science. Furthermore, there has been a Growth Management Hearings Board decision (GMHB 14-2-0009) regarding this matter, which says that the County should not just exempt beaver dams and rely on an HPA, but should do its own analysis of the effects of removal, which we in Whatcom County do require. Furthermore, state law (RCW 77.36.030) still authorizes the removal of wildlife (including beaver) that negatively impacts property. Thus, it is proposed to continue to allow the removal of beaver and their dams, but that an analysis must be done first and the code met.

**Commented [TAC165]:** Current WDFW standards.

**Commented [DOC166]:** Added because the DOC recommendation for 16.16.720 caused staff to realize that this cross ref is needed to capture the protective measures/standards found there as well.

1 vation areas (in addition to the building setback required by 16.16.265(D) in accordance with the follow-  
2 ing:

3 A. Buffers shall be established for activities adjacent to habitat conservation areas as necessary to pro-  
4 tect the integrity, functions, and values of the resource. Buffer widths shall reflect the sensitivity of  
5 the species or habitat present and the type and intensity of the proposed adjacent human use or ac-  
6 tivity. Buffers shall not include areas that are functionally and effectively disconnected from the hab-  
7 itat area by an existing, legally established road or other substantial developed surface.

8 B. Stream Buffers.

9 1. The standard buffer widths required by this article are considered to be the minimum required  
10 and presume the existence of a dense vegetation community in the buffer zone adequate to  
11 protect the stream functions and values at the time of the proposed activity. When a buffer  
12 lacks adequate vegetation to protect critical area functions, the technical administrator may in-  
13 crease the standard buffer, require buffer planting or enhancement, and/or deny a proposal for  
14 buffer reduction or buffer averaging.

15 2. The standard buffer shall be measured landward horizontally on both sides of the stream from  
16 the ordinary high water mark as identified in the field; provided, that for streams with identified  
17 channel migration zones, the buffer shall extend outward horizontally from the outer edge of  
18 the channel migration zone on both sides. The required buffer shall be extended to include any  
19 ~~abutting adjacent~~ regulated wetland(s), landslide hazard areas and/or erosion hazard areas and  
20 required buffers, but shall not be extended across roads or other lawfully established structures  
21 or hardened surfaces.

22 ~~2.3. The following standard buffer width requirements are established; provided, that portions of~~  
23 ~~streams that flow underground may be exempt from these buffer standards at the technical~~  
24 ~~administrator's discretion when it can be demonstrated that no adverse effects on aquatic spe-~~  
25 ~~cies will occur;~~

- 26 i. Shoreline streams: 150 feet;
- 27 ii. Fish-bearing streams: 100 feet;
- 28 iii. Non-fish-bearing streams: 50 feet.

29 4. ~~Portions of streams that flow underground may be exempt from these buffer standards at the~~  
30 ~~technical administrator's discretion when it can be demonstrated that no adverse effects on~~  
31 ~~aquatic species will occur.~~

32 B.C. Buffers for Other Habitat Conservation Areas. The technical administrator shall determine appropri-  
33 ate buffer widths for other habitat conservation areas based on the best available information.  
34 Buffer widths for non-stream habitat conservation areas shall be as follows identified in Table 3:

Commented [TAC167]: Moved to (4)

Commented [CES168]: Moved from (3)

1 **Table 3. Buffer Requirements for HCAs**

Habitat Conservation Area	Buffer Requirement
Areas with which federally listed species have a primary association	Minimum buffers shall be based on recommendations provided by the Washington State Department of Fish and Wildlife PHS Program; provided, that local and site-specific factors shall be taken into consideration and the buffer width based on the best available information concerning the species/habitat(s) in question and/or the opinions and recommendations of a qualified professional with appropriate expertise. <del>When there are no state recommendations or species management guidelines then only the building setback (WCC 16.16.265) shall be applied.</del>
State priority habitats and areas with which Priority Species have a primary association	
<del>Commercial and recreational shellfish areas</del> Critical Saltwater Habitats	Buffers shall extend 150 feet landward from ordinary high water mark of the marine shore. Buffers shall not be required adjacent to shellfish protection districts, but only in nearshore areas where shellfish reside.
Kelp and eelgrass beds	<del>Buffers shall extend 150 feet landward from ordinary high water mark of the marine shore.</del>
Surf smelt, Pacific herring, and Pacific sand lance spawning areas	<del>Buffers shall extend 150 feet landward from ordinary high water mark of the marine shore.</del>
Natural ponds and lakes	Ponds under 20 acres – Buffers shall extend 50 feet from the ordinary high water mark. <del>Lakes 20 acres and larger (which are subject to Title 23) – Buffers shall extend 100 feet from the ordinary high water mark; provided, that where vegetated wetlands are associated with the shoreline, the buffer shall be based on the wetland buffer requirements in WCC 16.16.630.</del>
Natural area preserves and natural resource conservation areas	Buffers shall not be required adjacent to these areas. These areas are assumed to encompass the land required for species preservation.
Locally important habitat areas	The buffer for marine nearshore habitats shall extend landward 150 feet from the ordinary high water mark.  The need for and dimensions of buffers for other locally important species or habitats shall be determined on a case-by-case basis, according to the needs of the specific species or habitat area of concern. Buffers shall not be required adjacent to the Chuckanut wildlife corridor. The technical administrator shall coordinate with the Washington State Department of Fish and Wildlife and other state, federal or tribal experts in these instances, and may use WDFW PHS management recommendations when available.

Commented [NRS169]: Staff needs guidance when no buffer or management guidelines existing. The building setback applies to all critical areas 16.16.255

- 2 ~~C.D.~~ The technical administrator shall have the authority to reduce buffer widths on a case-by-case  
 3 basis; provided, that the general standards for alternatives analysis and mitigation sequencing  
 4 ~~avoidance and minimization~~, per WCC 16.16.260 ~~have been applied (A)(1)(a) and (b) shall apply~~, and  
 5 when the applicant demonstrates to the satisfaction of the technical administrator that all of the fol-  
 6 lowing criteria are met:
- 7 1. The buffer reduction shall not adversely affect the habitat functions and values of the adjacent  
 8 habitat conservation area or other critical area.
  - 9 2. The buffer shall not be reduced to less than 75% ~~percent~~ of the standard buffer specified in Ta-  
 10 ble 2, above as defined in subsection C of this section.
  - 11 3. The slopes adjacent to the habitat conservation area within the buffer area are stable and the  
 12 gradient does not exceed 30% ~~percent~~ (see Article 3).

- 1 4. The area that has been reduced shall be mitigated at least at a ratio of 1:1, on an area basis.
- 2 ~~D-E.~~ The technical administrator shall have the authority to average buffer widths on a case-by-case basis; provided, that the general standards for avoidance and minimization per WCC 16.16.260(A)(1)(a) and (b) shall apply, and when the applicant demonstrates to the satisfaction of the technical administrator that all of the following criteria are met:
- 3
- 4
- 5
- 6 1. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer and all increases in buffer dimension are parallel to the habitat conservation area.
- 7
- 8
- 9 2. The buffer averaging does not reduce the functions or values of the habitat conservation area or riparian habitat, or the buffer averaging, in conjunction with vegetation enhancement, increases the habitat function.
- 10
- 11
- 12 3. The buffer averaging is necessary due to site constraints caused by existing physical characteristics such as slope, soils, or vegetation.
- 13
- 14 4. The buffer width is not reduced to less than 75% percent of the standard width specified in Table 2, above as defined in subsection C of this section.
- 15
- 16 5. The slopes adjacent to the habitat conservation area within the buffer area are stable and the gradient does not exceed 30% percent.
- 17
- 18 6. Buffer averaging shall not be allowed if habitat conservation area buffers are reduced pursuant to subsection D of this section.
- 19
- 20 7. Where a buffer has been reduced, the Technical Administrator may require enhancement to the remaining buffer to ensure no net loss of ecologic function, services, or value.
- 21
- 22 ~~E-F.~~ The technical administrator shall have the authority to increase the width of a habitat conservation area buffer on a case-by-case basis when there is clear evidence that such increase is necessary to achieve any of the following:
- 23
- 24
- 25 1. Comply with the requirements of a habitat management plan prepared pursuant to WCC 16.16.750.
- 26
- 27 2. Protect fish and wildlife habitat, maintain water quality, ensure adequate flow conveyance, provide adequate recruitment for large woody debris, maintain adequate stream temperatures, or maintain in-stream conditions.
- 28
- 29
- 30 3. Compensate for degraded vegetation communities, Clean Water Act 303(d) impaired water bodies, or steep slopes adjacent to the habitat conservation area.
- 31
- 32 4. Maintain areas for channel migration and/or frequently flooded areas.
- 33
- 34 5. Protect adjacent or downstream areas from erosion, landslides, or other hazards.
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**Commented [CES170]:** Staff recommendation. There was no mitigation ration specified, and staff believes applicants should know what to expect.

**Commented [CES171]:** Added ability of Technical Administrator to require buffer enhancement where buffer has been reduced so as to provide a fully vegetated buffer, thus minimizing impacts and helping with no net loss.

**16.16.750 Habitat Conservation Areas – Review and Reporting Requirements.**

- A. When County critical area maps or other sources of credible information indicate that a site proposed for development or alteration is more likely than not to contain habitat conservation areas or buffers, or could adversely affect a habitat area or buffer, the technical administrator shall require a site evaluation (field investigation) by a qualified professional or other measures to determine whether or not the species or habitat is present. If no habitat conservation areas are present, then review will be considered complete. If the site evaluation determines that the species or habitat is present, the technical administrator shall require a critical areas assessment report or habitat management plan (HMP), except; provided, that:
- B. nNo report or evaluation shall be required for developments outside of buffers within the upland portions of shellfish conservation areas.
- A-C. The technical administrator shall have the authority to waive the report requirement when he/she determines that the project is a single-family building permit development that involves less than

one-half acre of clearing and/or vegetation removal and will not directly disturb the species, or specific areas or habitat features that comprise the habitat conservation area (nest trees, breeding sites, etc.) as indicated by a site plan or scaled drawing of the proposed development.

~~B-D.~~ In addition to the reporting requirements of WCC 16.16.255, the Habitat Conservation Area assessment report/HMP shall describe the characteristics of the subject property and adjacent areas, including condition, quality, function, and values of the Habitat Conservation Area at a scale appropriate to the function being evaluated (see WAC 365-196-830(6)). The assessment shall include determination of appropriate buffers as set forth in WCC 16.16.740. The assessment shall also include field identification and/or delineation of habitat areas, analysis of historical aerial photos, and review of public records, ~~and interviews with adjacent property owners~~ as necessary to determine potential effects of the development action on critical areas. Assessment reports shall include the following site- and proposal-related information unless the technical administrator determines that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:

1. A map drawn to a common scale or survey showing the following information:
  - a. Topographic, hydrologic, and vegetative features.
  - b. The location and description of wildlife and habitat features, and all critical areas on or ~~with~~ in 200 feet of the site~~abutting the site~~ or farther given the scale appropriate to the function being evaluated.
  - c. Proposed development activity.
  - d. Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, water bodies, etc.
  - ~~e-e.~~ Surrounding land uses and zoning (to ensure appropriate buffer)
2. An analysis, including an analysis of cumulative impacts, of how the proposed development activities will affect the fish and wildlife habitat conservation area and/or buffer, including the area of direct disturbance; effects of stormwater management; effects on any 303(d) impaired waterbodies; proposed alteration to surface or subsurface hydrology; natural drainage or infiltration patterns; clearing and grading impact; temporary construction impacts; effects of increased intensity of use (including noise, light, or human intrusion, etc.).
3. Provisions to reduce or eliminate adverse impacts of the proposed development activities on the functions and values of the Habitat Conservation Area including, but not limited to:
  - a. Buffering;
  - ~~a-b.~~ and ~~C~~ clustering of development;
  - ~~b-c.~~ Retention of native vegetation;
  - ~~e-d.~~ Access limitations;
  - ~~e-e.~~ Seasonal restrictions on construction activities in accordance with the guidelines developed by the Washington State Department of Fish and Wildlife, the U.S. Army Corps of Engineers, the salmonid recovery plan and/or other agency or tribe with expertise and jurisdiction over the subject species/habitat; and
  - e-f. Other appropriate and proven low impact development techniques.
4. Management recommendations developed by WDFW through its PHS program.
5. ~~When appropriate due to the type of habitat or species potentially present or the project area conditions, the technical administrator may also require that the report include a~~ Additional information including, but not limited to, direct observations of species use or detailed physical and biological characteristics surface and subsurface hydrologic features both on and adjacent to the site off-site at an appropriate scale (see WAC 365-196-830(6)). The assessment of off-site conditions shall be based on available information and shall not require accessing off-site properties.

**Commented [TAC172]:** No one knows what the first part means. And the TAC felt that even a SFR clearing a half-acre could have impacts and should go through an analysis and mitigation sequencing.

**Commented [CAC173]:** "Abutting" is ambiguous. 200 feet is the largest a buffer might be.

5-6. Applicants near a bald eagle nest shall complete the U.S. Fish & Wildlife Service (USFWS) self-assessment (<https://www.fws.gov/pacific/eagle/>) to determine whether a USFWS bald eagle permit is needed, and if so, apply for one. Development activities near bald eagle habitat shall be carried out consistent with the national Bald Eagle Guidelines. Bald eagle habitats shall be protected pursuant to the Washington State Bald Eagle Protection Rules (WAC 232-12-292), the provisions of which require a site cooperative habitat management plan to be developed in coordination between the WDFW and landowner whenever projects are proposed on land that involves land containing or adjacent to an eagle nest or communal roost site that alter habitat are proposed within a nest territory or communal roost. The County shall issue development permits only after certification from the WDFW that the development is in compliance with an approved habitat management plan. (See WAC 232-12-292 for specific details.)

C-E. All habitat management plans shall be prepared in consultation with the State Department of Fish and Wildlife and/or other federal, state, local or tribal resource agencies with jurisdiction and expertise in the subject species/habitat.

D-F. At the request of the applicant, the County may gather the required information in this section for applicants seeking to develop a single-family home; provided, that:

1. Availability of County staff shall be at the discretion of the technical administrator and subject to workload and scheduling constraints.
2. Fees for County staff services shall be in accordance with the unified fee schedule.

**16.16.760 Habitat Conservation Areas – Mitigation Standards for habitat conservation areas.**

Activities that adversely affect habitat conservation areas and/or their buffers as determined by the technical administrator shall include mitigation sufficient to achieve no net loss of habitat functions and values in accordance with WCC [16.16.260](#) and this section.

A. In determining the extent and type of mitigation required, the technical administrator may consider all of the following:

1. The ecological processes that affect and influence critical area structure and function within the watershed or sub-basin;
2. The individual and cumulative effects of the action upon the functions of the critical area and associated watershed;
3. Observed or predicted trends regarding the gains or losses of specific habitats or species in the watershed, in light of natural and human processes;
4. The likely success of the proposed mitigation measures;
5. Effects of the mitigation actions on neighboring properties; and
6. 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 [Watershed Management Salmon Recovery](#) Board Habitat Project List or by the Washington State Department of Fish and Wildlife as essential for fish and wildlife habitat enhancement.

B. The following additional mitigation standards shall apply:

1. ~~Compensatory m~~Mitigation for alterations to habitat areas shall achieve equivalent or greater biologic functions, and shall provide similar functions to those that are lost or altered.
2. ~~Compensatory m~~Mitigation in the form of habitat restoration or enhancement is required when a habitat is altered permanently as a result of an approved project. Alterations shall not result in net loss of habitat.
3. 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

Commented [TAC174]: Staff suggested clarification.

of mitigation projects shall be timed to reduce impacts to existing fish, wildlife and flora; provided, that the technical administrator may adjust the timing requirements to allow grading, planting, and other activities to occur during the appropriate season(s).

4. ~~Compensatory m~~Mitigation shall be provided on-site ~~whenever feasible, or~~Off-site mitigation in ~~the a~~ location that will provide ~~the a greater~~st ecological benefit to the species and/or habitats affected and have ~~the a greater~~st likelihood of success ~~may be accepted at the discretion of the Technical Administrator.~~ 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 technical administrator through a watershed or landscape based analysis that mitigation within an alternative sub-basin of the same watershed would.~~As mitigation is moved further away from the impacted habitat the Technical Administrator may increase the amount of mitigation required. ~~If offsite mitigation is proposed, the applicant must demonstrate through an alternatives/ mitigation sequencing analysis (WWC 16.16.260) that the mitigation will have greater ecological benefit.~~
  5. All mitigation sites shall have buffers consistent with the buffer requirements established in 16.16.740 of this chapter; provided, that the technical administrator shall have the authority to approve a smaller buffer when existing site constraints (such as a road) prohibit attainment of the standard buffer. Mitigation actions shall not create buffer encumbrances on adjoining properties.
  6. The technical administrator shall ~~have authority to~~ require annual monitoring of mitigation activities and submittal of annual monitoring reports in accordance with WCC 16.16.260(C) to ensure and document that the goals and objectives of the mitigation are met. ~~The frequency and duration of the monitoring shall be based on the specific needs of the project as determined by the technical administrator.~~Monitoring shall be for a period of up to 5 years.
  7. ~~All mitigation areas shall be protected and managed to prevent degradation and ensure protection of critical area functions and values in perpetuity. Permanent protection shall be achieved through deed restriction or other protective covenant in accordance with WCC 16.16.265.~~
  7. Mitigation projects involving in-stream work including, but not limited to, installation of large woody debris shall be designed to ensure there are no adverse hydraulic effects on upstream or downstream properties. The County River and Flood Division shall review any such mitigation projects for compliance with this provision.
  8. On a case-by-case basis, the Technical Administrator shall have the authority to require mitigation for impacts to a Habitat Conservation Area at the following ratios:
    - i. 1.25:1 ratio (area or function); and,
    - ii. Where the mitigation is in place and functional before the impacts occur (i.e., advanced mitigation), at a 1:1 ratio (area or function).

**Commented [CAC175]:** Impacts and mitigation for HCA's should be considered on a smaller reach, scaled to the size of impacts and offsetting mitigation. Loss of shade, large woody debris, leaf litter, bank hardening, substrate manipulation, erosion, or sedimentation cannot be adequately offset at other locations; thus the need for increased mitigation for offsite activities.

**Commented [CES176]:** Moved to 16.16.260(E), as this applies to all critical areas, not just wetlands.

**Commented [TAC177]:** The code didn't specify the ratio of mitigation for impacts to HCAs, and staff thought it best that applicants know what might be expected.

**ARTICLE 8. CONSERVATION PROGRAM ON AGRICULTURE LANDS (CPAL)**

**16.16.290 Conservation program on agriculture lands (CPAL) 16.16.800 Purpose.**

A. The well-being of farms and ranches in Whatcom County depends in part on good quality soil, water, air, and other natural resources. Agricultural operations that incorporate protection of the environment, including critical areas and their buffers as defined by this chapter, are essential to achieving this goal.

B. The purpose of the CPAL program is to allow farmers practicing ongoing agricultural activities shall be permitted within that may affect critical areas, their functions and values, and/or their buffers to do so either (i) in accordance with the standard requirements of this chapter or (ii) pursuant to a Conservation Farm Plan voluntarily prepared and approved conservation program established pursuant to this section Article. Under this program, ongoing agriculture is afforded more flexibility, but only if the farmers are good stewards of the land. This is more than growing bountiful crops and livestock: It necessarily includes protecting critical areas. If farmers and ranchers are willing to enter into this agreement with their community the CPAL program, then flexibility in these provisions may be extended to them. If not, then then they must observe the standard provisions of this Chapter.

A-C. This program shall be subject to continued monitoring and adaptive management to ensure that it meets the purpose and intent of this chapter.

**16.16.810 Resource Concerns.**

Keeping horses and other large animals Agricultural operations, including the keeping of horses and other large animals, have the potential to create potential adverse impacts to critical areas. It is the County's policy to minimize such impacts.

- A. Nutrient Pollution of Water. Animal waste contains nutrients (nitrogen and phosphorous). With each rain, these wastes can wash off the land and into the nearest stream, lake, or wetland. In surface water, phosphorous and nitrogen fertilize aquatic plants and weeds. As the plants and weeds proliferate and decay, the dissolved oxygen that fish need to survive is depleted. Nitrogen in the form of nitrate is easily dissolved in and carried with rainfall through our permeable soils to groundwater. Nitrate concentrations exceeding the maximum contaminate level for safe drinking water are found in many wells of Whatcom County. These can present a significant human health risk, particularly to the very old and young.
- B. Pathogen Pollution of Water. Manure contains bacteria and other pathogens. These can make the water unfit for drinking without treatment or shellfish unfit for human consumption. They can also make water unsafe for human contact and recreational sports such as fishing, swimming or water skiing. Both surface and groundwater are vulnerable to this type of pollution.
- C. Sediment Pollution to Surface Water. Regardless of the amount of supplemental feed provided, large animals will continue grazing until all palatable vegetation is gone. On especially small lots (one or two acres), the animals that are allowed free and continuous access to vegetation quickly graze-out and trample pasture grasses and forbs. These areas are then susceptible to invasion by weeds, including noxious weeds, and brush. The resulting bare ground is subject to erosion from wind and water. Lands that lack adequate vegetation are subject to erosion, and contaminated runoff from these areas can enter water bodies and wetlands and interfere with fish and wildlife habitat.
- D. Degradation of Riparian Areas. The term "riparian" is defined in Article 8-9 of this chapter and includes the areas adjacent to streams, lakes, marine shorelines and other waters. A healthy riparian area is essential to protecting fish and wildlife, including salmon and shellfish. Dense riparian vegetation along the water's edge will slow and protect against flood flows; provide infiltration and filter-

Commented [CES178]: Follow-up: Was also suggested that there be an annual report to the Council.

Commented [CES179]: We have combined section 16.16.290 (from Article 2) and Appendix A into one new Article. Code should not have appendices, especially ones with regulations in them.

Commented [CES180]: moved from Apx A

Commented [DOC181]: Recommended by Dept. of Commerce

Commented [TAC182]: To explicitly state the purpose of the program, and what is expected in exchange for having flexible standards.

Commented [CES183]: Moved from Apx A.

ing of pollutants; secure food and cover for fish, birds and wildlife; and keep water cooler in summer. If it occurs, uncontrolled grazing has the potential to removes important riparian vegetation.

**16.16.820 Classification and Applicability.**

- A. A conservation farm plan identifies the farming or ranching activities and the practice(s) necessary to avoid their potential negative impacts (resource concerns). Practice selection depends upon the types of livestock raised and crops grown. Based upon the type and intensity of the operation, some generalizations can be made as to the resource concerns and remedies that apply.
- B. Some operations present relatively low risks to critical areas because of their benign nature, timing, frequency, or location. For these operations, the resource concerns and remedies are relatively easy to identify and implement. These are described in more detail as Type 1 agricultural operations subject to standardized conservation farm plans in Sections 16.16.830 and 16.16.840(A).
- C. Where the potential negative impacts to critical areas are moderate or high, solutions are more difficult to formulate and implement. In those circumstances, a more rigorous planning process is required. In such cases, a formal written plan shall provide the desired environmental protection. These types of operations are described as agricultural operations requiring custom conservation farm plans in Sections 16.16.830 and 16.16.840(B or C).

D. Agricultural activities that qualify for coverage under this section include:

- 1. Type 1 Low impact farm or Livestock Operations.
  - a. To qualify as a Type 1 low impact operation, a farm shall not exceed one animal unit per one acre of grazable pasture (row and berry crops do not qualify as Type 1). These operations present a low potential risk to critical area degradation including ground/surface water contamination because the animals kept generate fewer nutrients than can be used by the crops grown there. where
  - b. Critical areas on Type 1 operations are protected against the potential negative impacts of agricultural activities through the implementation of an approved standard conservation farm plan prepared in accordance with Sections 16.16.830 and 16.16.840(A) Appendix A, Section 1, of this chapter; or,
  - c. Those operators qualifying for a Type I (standard) conservation farm plan may elect to do a Type II (custom) conservation farm plan if they want to use "Prescribed Grazing" (NRCS Practice 528A) to manage vegetative filter strips installed alongside critical areas.
- 2. Type 2 Moderate Operations.
  - a. Type 2 operations are farms that include, but are not limited to, those that exceed one animal unit per one acre of grazable pasture; farms that have orchards, vineyards, small-fruit field or row crops; and drainage improvement districts. These operations present a potential moderate risk to critical area degradation, including ground or surface water contamination, because the nutrients applied from manure or commercial fertilizers may exceed that which can be easily used by the crops grown there without careful planning and management. The agricultural activities are also likely to be much more intense than Type 1 operations, posing greater potential risks to other critical areas.
  - b. Critical areas on Type 2 operations are protected against the potential negative impacts of agricultural activities through the implementation of an approved custom conservation farm plan prepared in accordance with Sections 16.16.830 and 16.16.840(B).
- 3. Type 3 or high impact Operations.
  - a. Type 3 operations include dairies and animal feeding operations/concentrated animal feeding operations (AFO/CAFOs). These operations are already highly regulated by state and federal governments (see Chapter 90.64 RCW et seq.; 40 CFR 122.23 and 40 CFR Part 412).

**Commented [CES184]:** All moved from Apx A.

**Commented [CES185]:** Renamed farm operation types from low, moderate, and high impact to Type 1, 2, and 3 to avoid value-loaded words.

**Commented [CES186]:** Added because the WCD argued that in some instances it may be wise to allow managed grazing of the vegetative filter strips. Otherwise they may get overgrown with invasive species (e.g., blackberries) which don't provide the filtering action that herbaceous plants do.

b. ~~Farm or livestock operations where~~ Critical areas are protected against the potential negative impacts of Type 3 agricultural activities through the implementation of an approved custom conservation farm plan prepared in accordance with Sections 16.16.830 and 16.16.840(C)Appendix A, Section 2, of this chapter.

**16.16.830 Conservation Farm Plans – General Standards.**

A. All conservation farm plans shall include all practicable measures, including Best Management Practices, to maintain existing critical area functions and values.

~~B. The following additional requirements shall apply:~~

B. A conservation farm plan ~~shall not~~ ~~shall may not~~ recommend nor authorize:

1. ~~F~~illing, draining, grading, or clearing activities within critical areas or buffers;

a. ~~except Only~~Except on existing-ongoing agricultural land where such activities are a demonstrated essential part of the ongoing agricultural use or part of routine maintenance; and,

b. When it does not expand the boundaries of the existing-ongoing agricultural use; ~~provided and,~~

~~a-c. The appropriate permits for doing so have been obtained~~When Best Management Practices are used that impacts are mitigated in accordance with an the approved conservation farm plan.

~~The A~~ conservation farm plan shall not authorize:

~~1-2. The~~ construction of new structures. New structures shall be constructed in compliance with the applicable ~~provisions standard requirements~~ of this chapter and the Whatcom County Code. ~~landowner shall ensure that all of the following are met:~~

2. ~~Siting of structures shall not result in surface or groundwater contamination.~~

3. ~~Dust, odor, and noise concerns attendant to the use of the improvement shall be mitigated.~~

4. ~~Impermeable surfaces such as building roofs, roads, and yards shall not change the flow, volume, and/or direction of runoff, or cause erosion or downstream flooding.~~

3. New or expanded drainage systems. (Routine maintenance of existing drainage systems may be allowed but only in compliance with the Washington State hydraulic code (WAC 220-660) and the Best Management Practices found in the "Drainage Management Guide for Whatcom County Drainage Improvement Districts.")

4. The conversion of land to agricultural use.

C. Other plans prepared for compliance with state or federal regulations (e.g., nutrient management plans), or to obtain an accredited private third-party certification (e.g., GLOBALG.A.P.), or similar plans may be used as part of or in lieu of a Conservation Farm Plan if the Technical Administrator determines they adequately address the requirements of this Title.

**16.16.840 Conservation Farm Plan Requirements.**

A. **Type 1 (Standard) Conservation Farm Plans.** Owners of Type 1 low impact livestock operations have limited options to control animal waste because their operations are small. The required conservation farm plan can be prepared by the landowner and include a simple map of the property, a standard checklist designed to protect water quality, and the following additional components:

1. System Siting and Design. Barns, corrals, paddocks, or lots are to be sited to avoid runoff directly into critical areas.

a. Where structures exist in critical areas or buffers and cannot be relocated, corrective measures must be taken if necessary to avoid runoff of pollutants and bacteria to critical areas.

Commented [CES187]: Moved from Apx A.

Commented [TAC188]: To make the language positive, rather than negative.

Commented [CAC189]: All of these (and other requirements) are already addressed by other sections of the WWC.

Commented [CES190]: Added to explicitly state that these two things cannot be done via CPAL. This was already the case, but the TAC wanted it to be explicit.

- b. ~~Where trees and shrubs exist along regulated streams<sup>4</sup>, lakes, ponds, or wetlands:~~
  - i. ~~Where trees and shrubs already exist, they shall be retained and managed to preserve the existing functions of the buffer pursuant to the NRCS Conservation Practice 391, "Riparian Forest Buffer."~~
  - ii. ~~Where trees and shrubs are absent, but the Department of Ecology has not listed the waterbody on the most recent Section 303(d) list as impaired for temperature or established a TMDL for temperature along a stream, lake, pond or wetland, a strip or area of herbaceous vegetation shall be established and maintained between barns, corals, paddocks, and grazing areas pursuant to the USDA Natural Resource Conservation Service's (NRCS) Conservation Practice 393, "Vegetative Filter Strip," and USDA's Buffer Width Design Tool for Surface Runoff found in the publication Conservation Buffers Design Guidelines for Buffers, Corridors, and Greenways. Livestock shall be excluded from the vegetative filter strips established to protect critical areas pursuant to NRCS Practice 472, "Access Control/Livestock Exclusion."~~  
~~Where trees and shrubs are absent, and the Department of Ecology has listed the waterbody on the most recent Section 303(d) list as impaired for temperature or established a TMDL for temperature, NRCS Conservation Practice 422, "Hedgerow Practices," be installed and maintained per the approved conservation farm plan.~~
- 2. Manure Collection, Storage, and Use. Manure and soiled bedding from stalls and paddocks are to be removed and are to be placed in a storage facility protected from rainfall so that runoff does not carry pollutants and bacteria to critical areas. Manure is to be used as cropland fertilizer. The rate and timing of manure application shall not exceed crop requirements, or cause surface or groundwater water quality degradation. It is to be applied in a manner to avoid runoff of nutrients and bacteria to critical areas.
- 3. Pasture Management. Pastures are to be established and managed pursuant to "Prescribed Grazing" (NRCS Practice 528A).
- 4. Exercise or Barn Lots. These normally bare areas must be stabilized and managed to prevent erosion and sediment movement to critical areas. A diversion terrace shall be installed, where necessary, to hinder flow to and across the lot or paddock. Runoff from the lot must be treated via the vegetative filter strip or riparian buffer as described in subsection (A3)(1a) of this section to avoid contaminants reaching critical areas.
- 5. Existing native vegetation within critical areas and their buffers shall be retained ~~to the extent practicable~~.
- 6. Chemical additions, including fertilizers, fungicides, herbicides, and pesticides, shall not be applied within 50 feet of standing or flowing water except by a licensed applicator.
- 7. Fertilizers other than manure. The rate and timing of fertilizer application shall not exceed crop requirements, or cause surface or groundwater quality degradation.

**Commented [CAC191]:** Farm plans need to allow maintenance of hedgerows and filter strips. Add language or create policy.

**Commented [TAC192]:** The TAC recommends that all streams lacking vegetation be planted to this standard so as to address temperature impairment. However, the CAC recommends not adopting this, as the cost of installing hedgerows would in all probability keep people from participating in the CPAL program.

**Commented [CES193]:** Stricken because the definition of ongoing ag says that no new area will be cleared per 16.16.290 B1

<sup>4</sup> Note that ditched channels may or may not meet the definition of a stream. See Article 9, Definitions.

2. ~~Plan Performance~~–Implementation of the conservation farm plan must protect existing values and functions of critical areas. Benchmark conditions are to be captured and described in the plan. This may consist of photo documentation, written reports or both.
3. ~~Treatment of Wetlands~~–Wetlands shall be conserved pursuant to the provisions of Title 180 – National Food Security Act Manual (see <http://www.nrcs.usda.gov/programs/wetlands/index.html>).
4. Custom conservation farm plans need not address the application, mixing, and/or loading of insecticides, fungicides, rodenticides, and pesticides; provided, that such activities are carried out in accordance with the Washington State Department of Agriculture and all other applicable regulations including, but not limited to: the provisions of Chapter 90.48 RCW, the Clean Water Act, United States Code (USC) Section 136 et seq. (Federal Insecticide, Fungicide, and Rodenticide Act), Chapter 15.58 RCW (Pesticide Control Act), and Chapter 17.21 RCW (Pesticide Application Act).
5. Where potential significant impacts to critical areas are identified through a risk assessment, then plans shall be prepared to ~~mitigate-prevent and/or mitigate~~ same by:
  - a. A planning advisor; or
  - b. Through the USDA Natural Resources Conservation Service; or
  - c. The Whatcom conservation district; or
  - d. An eligible farmer or rancher, who participates in this program by:
    - Attending a County-sponsored or approved workshop, and
    - Conducting a risk assessment of their farm or ranch, alone or with a planning advisor’s assistance, and
    - Developing a plan to ~~prevent and/or mitigate~~ ~~mitigate~~ any identified risks, and
    - Having the plan approved pursuant to WCC [16.16.290](#).

One resource for guidance is *Tips on Land and Water Management for Small Farm and Livestock Owners in Whatcom County, Washington*. It can be obtained from the Whatcom Conservation District’s website: <http://www.whatcomcd.org/small-farm>. Other guidance may also be used, provided it is consistent with the best available science criteria in WAC [365-195-900](#) through [365-195-925](#).

**B-C. Type 3 (Custom) Conservation Farm Plans High Impact Operations.**

1. Conservation farm plans meeting the criteria of ~~these~~ state and federal laws ~~pertaining to~~ [AFO/CAFOs \(see Chapter 90.64 RCW et seq.; 40 CFR 122.23 and 40 CFR Part 412\)](#) fulfill the requirements of this chapter. (See USEPA Final Guidance – Managing Manure Guidance for Concentrated Animal Feeding Operations (CAFOs) at: <http://epa.gov/guide/cafo/>)

**16.16.850 Preparation and Approval of Conservation Farm Plans**

Conservation farm plans shall be subject to County review, approval, monitoring, adaptive management, and enforcement in accordance with the following:

- A. The technical administrator shall review and approve ~~the all~~ conservation farm plans.
- A-B. ~~The following Table 4 shows which~~ entities may ~~prepare and/or~~ provide technical assistance and recommendations ~~regarding in preparing which type of~~ conservation farm plan:

**Table 4. Who May Prepare Conservation Farm Plans**

Who May Prepare	Type 1 Operations	Type 2 and 3 Operations
The farm operator	X	
Whatcom County Planning and Development Services	X	X
A Qualified Consultant	X	

**Commented [TAC194]:** Follow-up: Was suggested that Whatcom County should offer training on preparing a Type 1 Conservation Farm Plan so that other consultants can qualify. It wouldn’t make them Planning Advisors able to do Type 2 or 3 Conservation Farm Plans, but would spur competition.

A Watershed Improvement District (for a farm or ranch that is within its boundaries)	X	
The Whatcom Conservation District	X	X
A Planning Advisor	X	X

- b. ~~The Whatcom Conservation District; or,~~
- c. ~~A watershed improvement district for a farm or ranch that is within its boundaries; or,~~
- d. ~~A qualified planning advisor as defined by this chapter.~~

C. ~~The farm operator can seek conservation farm plan approval directly through the Department of Planning and Development Services, or grant permission to any of the entities listed in Table 4 to prepare and submit it. If the conservation farm plan is prepared by any entity listed in Table 4 other than the Whatcom Conservation District, the farm operator, the Department will conduct a site visit prior to plan approval in order to assess critical areas and sufficiency of the plan to protect water quality and critical areas.~~

Commented [CES195]: Incorporated from PDS Policy PL2-85-001C.

**16.16.860 Monitoring and Compliance**

A. The technical administrator and/or the farm operator shall periodically monitor plan implementation and compliance beginning one year after plan approval and every two years thereafter, through the life of the plan, or more frequently at the Technical Administrator's discretion. The monitoring may include periodic site inspections, self-assessment by the farm operator, or other appropriate actions. For a time period of up to every 5 years, self-certification is allowed for Type 1 conservation farm plans, or if the plan is prepared by the Whatcom Conservation District or Planning Advisor and approved by the department. If a sufficient self-certification monitoring report (must include photos and implemented Best Management Practices) is not submitted within 30 days of request, County staff may make a site visit. Site visits will be coordinated with the landowner/farm operator. Prior to carrying out a site inspection, the technical administrator shall provide reasonable notice to the owner or manager of the property as to the purpose or need for the entry, receive confirmation, and afford at least two weeks in selecting a date and time for the visit. At the landowner's/farm operator's discretion, staff may be accompanied by the planning advisor or Whatcom Conservation District planner.

Commented [CES196]: Incorporated from PDS Policy PL1-85-003Z.

B. Where the planning advisor has reason to believe that there is an imminent threat to public health or significant pollution with major consequences occurring as a result of the agricultural operations, ~~the~~ the planning advisor will advise the agricultural operator of his or her concerns in writing. While the planning advisor may provide suggestions for resolving the issue, the responsibility for compliance and resolution of issues rests solely with the farm operator. If compliance issues are not promptly resolved, the planning advisor shall promptly withdraw from representing the farm operator, notify the Technical Administrator of such, and may report such situations to the Technical Administrator for subsequent action and enforcement in accordance with WCC 16.16.285.

Commented [CAC197]: GBoggs stated that the CD will not report violations, as it must strictly guard its reputation for confidentiality; otherwise, no one would invite them on their farms and participate in the program. However, they are not obligated to continue to represent the farmer.

C. ~~The farm practices described in an approved conservation farm plan will be deemed to be in compliance with this Chapter so long as the landowner/farm operator is properly and fully implementing the practices and responding to possible adaptive management requirements. If the conservation farm plan is found not to be protective of critical areas in the approved conservation farm plan according to the timeline in the plan. This will be verified through conservation farm plan implementation monitoring.~~

Commented [CES198]: Incorporated from PDS Policy PL1-85-003Z.

~~C.D.~~ Agricultural operations shall cease to be in compliance with this Article, and a new or revised conservation farm plan will be required, ~~section~~ when the technical administrator determines that any of the following has occurred:

1. ~~A~~ When a farm or ranch operator fails to properly and fully implement and maintain their conservation farm plan.

2. When implementation of the conservation farm plan fails to protect critical areas. If so, a new or revised conservation farm plan shall be required to protect the values and functions of critical areas at the benchmark condition.

3. When substantial changes in the agricultural activities of the farm or livestock operation have occurred that render the current conservation farm plan ineffective, Substantial changes that render a conservation farm plan ineffective are those that:

d. Degrade baseline critical area conditions for riparian and wetland areas that existed when the plan was approved; or,

e. Result either in a direct discharge or substantial potential discharge of pollution to surface or ground water; or,

f. The type of agricultural practices change from Type 1 to Type 2, Type 2 to Type 3, or Type 1 to Type 3 operations.

4. ~~When the increase in livestock or decrease in land base or nutrient export results in the farm being out of balance between the nutrients generated and to be used by growing crops.~~

~~In such cases a new or revised conservation farm plan will be required to meet the purpose and intent of this section.~~

3-5. When a new or revised conservation farm plan is required, ~~pursuant to either subsection (C)(48)(b) or (c) of this section, and the farm operator the technical administrator has been so advised the owner~~ in writing, and a reasonable amount of time has passed without significant progress being made to develop said plan. Refusal or inability to provide a new plan within a reasonable period of time shall be sufficient grounds to revoke the approved conservation farm plan and require compliance with the standard provisions of this chapter.

4-6. When an owner or manager denies the technical administrator reasonable access to the property for technical assistance, monitoring, or compliance purposes, then the technical administrator shall document such refusal of access and notify the owner of his/her findings. The owner shall be given an opportunity to respond in writing to the findings of the technical administrator, propose a prompt alternative access schedule, and to state any other issues that need to be addressed. Refusal or inability to comply with an approved conservation farm plan within a reasonable period of time shall be sufficient grounds to revoke said plan and require compliance with the standard provisions of this chapter.

E. With one exception, Whatcom County will not use conservation farm plans (standard or custom) as an admission by the landowner that s/he or she has violated this Chapter. Disclosure of current farm practices, structures on conservation farm plan documents, or observations made through monitoring inspections or conservation farm plan approval, will not be used to bring other enforcement actions against a farm operator. ~~W~~ The exception is that when matters of major life, health, environment, or safety issues, as determined by the Technical Administrator are observed and the landowner fails to immediately and permanently remediate, then the observations may be used in an enforcement action.

**16.16.870 Limited Public Disclosure.**

A. ~~Conservation farm plans prepared pursuant to this section will not be open-subject to public inspection-disclosure unless required by law or a court of competent jurisdiction;~~

A-B. ~~Provided, that the County will collect summary information related to the general location of a farming enterprise, the nature of the farming activity, and the specific best management practices to be implemented during the conservation farm plan review process. The summary information shall be provided by the farm operator or his/her designee and shall be used to document the basis for the County's approval of the plan.~~

Commented [CES199]: Incorporated from PDS Policy PL1-85-003Z.

Commented [CAC200]: The TAC wanted to make sure that if a farm changes from a pasture to a field crop or a field crop to a dairy, for example, it's clear that a new farm plan is needed.

Commented [TAC201]: WCD recommendation.

Commented [CAC202]: PDS wants to encourage farmers to obtain farm plans. To this end, our policy has been to not use obtaining one as a vehicle to find other code violations. However, it is possible that something could be occurring that we simply cannot ignore.

Commented [CES203]: Incorporated from PDS Policy PL1-85-003Z.

- 1 ~~B.C.~~ Plans shall also be subject to disclosure if required by a court of competent jurisdiction. The County  
2 will provide to the public via its website information regarding which farms have approved conser-  
3 vation farm plans and the date of their approval.
- 4 ~~C.D.~~ Upon request, the County may provide a sample conservation farm plan, exclusive of site- or  
5 property-specific information, to give general guidance on the development of a conservation farm  
6 plan.

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**ARTICLE 89. DEFINITIONS**

**16.16.800-900 Definitions.**

“Accessory structure” means a structure that is incidental and subordinate in intensity to a primary use. Barns, garages, storage sheds, and similar ~~appurtenances~~ structures are examples.

“Active alluvial fan” means a portion or all of a fan that has experienced channel changes, erosion, or deposition. Active fans can be identified based on determination by field geomorphic and topographic evidence, and by historical accounts.

~~“Actively farmed” means land that has a documented history of ongoing agricultural use and that is currently used primarily for the production of crops and/or raising or keeping livestock.~~

“Activity” means human activity associated with the use of land or resources.

“Adaptive management” means using scientific methods to evaluate how well regulatory and non-regulatory actions protect the critical area. An adaptive management program is a formal and deliberate scientific approach to taking action and obtaining information in the face of uncertainty. Management policy may be adapted based on a periodic review of new information.

“Adequate water supply” means a water supply that meets requirements specified in the Whatcom County drinking water ordinance (Chapter 24.11 WCC).

“Agricultural activities” means those activities directly pertaining to the production of crops or livestock including, but not limited to: cultivation; harvest; grazing; animal waste storage and disposal; fertilization; the operation and maintenance of farm and stock ponds or drainage ditches, irrigation systems, and canals; and normal maintenance, repair, or operation of existing serviceable structures, facilities, or improved areas. The construction of new structures or activities that bring a new, non-ongoing agricultural area into agricultural use are not considered agricultural activities. ~~Neither the construction of new structures nor activities that bring a new, non-ongoing agricultural area into agricultural use are not considered agricultural activities.~~

“Agricultural land” is land primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, 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, or livestock, and/or lands that have been designated as capable of producing food and fiber, which have not been developed for urban density housing, business, or other uses incompatible with agricultural activity.

“Alluvial fan” means a fan-shaped deposit of sediment and organic debris formed where a stream flows or has flowed out of a mountainous upland onto a level plain or valley floor because of a sudden change in sediment transport capacity (e.g., significant change in slope or confinement).

“Alluvium” is a general term for clay, silt, sand, gravel, or similar other unconsolidated detrital materials, deposited during comparatively recent geologic time by a stream or other body of running water, as a sorted or semi-sorted sediment in the bed of the stream or on its floodplain or delta.

“Alteration” means any human-induced change in an existing condition of a critical area or its buffer. Alterations include, but are not limited to, grading, filling, channelizing, dredging, clearing (vegetation), draining, construction, compaction, excavation, or any other activity that changes the character of the critical area.

“Anadromous fish” means fish species that spend most of their lifecycle in salt water, but return to freshwater to reproduce.

1 “Animal unit” means 1,000 pounds of livestock live weight.

2 “Aquifer” means a geologic formation, group of formations, or part of a formation capable of yielding a  
3 significant amount of groundwater to wells or springs (Chapter [173-160](#) WAC).

4 “Aquifer susceptibility” means the ease with which contaminants can move from the land surface to the  
5 aquifer based solely on the types of surface and subsurface materials in the area. Susceptibility usually  
6 defines the rate at which a contaminant will reach an aquifer unimpeded by chemical interactions with  
7 the vadose zone media.

8 “Aquifer vulnerability” is the combined effect of susceptibility to contamination and the presence of po-  
9 tential contaminants.

10 “Bankfull width” means:

11 (a) For streams – The measurement of the lateral extent of the water surface elevation perpendicu-  
12 lar to the channel at bankfull depth. In cases where multiple channels exist, bankfull width is the  
13 sum of the individual channel widths along the cross-section (see board manual section 2).

14 (b) For lakes, ponds, and impoundments – Line of mean high water.

15 (c) For tidal water – Line of mean high tide.

16 (d) For periodically inundated areas of associated wetlands – Line of periodic inundation, which will  
17 be found by examining the edge of inundation to ascertain where the presence and action of  
18 waters are so common and usual, and so long continued in all ordinary years, as to mark upon  
19 the soil a character distinct from that of the abutting upland.

Commented [TAC204]: From WAC 222-16-010

20 “Base flood” is a flood event having a ~~one percent~~1% chance of being equaled or exceeded in any given  
21 year, also referred to as the 100-year flood. Designations of base flood areas on flood insurance map(s)  
22 always include the letters A (zone subject to flooding during a 100-year flood, but less so than V zones)  
23 or V (zone subject to the highest flows, wave action, and erosion during a 100-year flood).

24 “Bedrock” is a general term for rock, typically hard, consolidated geologic material that underlies soil or  
25 other unconsolidated, superficial material or is exposed at the surface.

26 “Best available science” means information from research, inventory, monitoring, surveys, modeling,  
27 synthesis, expert opinion, and assessment that is used to designate, protect, or restore critical areas. As  
28 defined by WAC [365-195-900](#) through [365-195-925](#), best available science is derived from a process that  
29 includes peer-reviewed literature, standard methods, logical conclusions and reasonable inferences,  
30 quantitative analysis, and documented references to produce reliable information.

31 “Best management practices” means conservation practices or systems of practices and management  
32 measures that:

- 33 1. Control soil loss and reduce water quality degradation caused by nutrients, animal waste, toxins,  
34 and sediment;
- 35 2. Minimize adverse impacts to surface water and groundwater flow, circulation patterns, and to  
36 the chemical, physical, and biological characteristics of waters, wetlands, and other fish and  
37 wildlife habitat;
- 38 3. Control plant site runoff, spillage or leaks, sludge or water disposal, or drainage from raw mate-  
39 rial.

40 “Buffer (the buffer zone)” means the area adjacent to the outer boundaries of critical areas including  
41 wetlands; habitat conservation areas such as streams, lakes, and marine shorelines; and/or landslide  
42 hazard areas that separates and protects critical areas from adverse impacts associated with adjacent  
43 land uses.

1 “Channel migration zone (CMZ)” means the area along a river or stream within which the channel can  
 2 reasonably be expected to migrate over time as a result of normally occurring processes. It encompasses  
 3 that area of current and historic lateral stream channel movement that is subject to erosion, bank de-  
 4 stabilization, rapid stream incision, and/or channel shifting, as well as adjacent areas that are suscepti-  
 5 ble to channel erosion. There are three components of the channel migration zone: (1) the historical  
 6 migration zone (HMZ) – the collective area the channel occupied in the historical record; (2) the avulsion  
 7 hazard zone (AHZ) – the area not included in the HMZ that is at risk of avulsion over the timeline of the  
 8 CMZ; and (3) the erosion hazard area (EHA) – the area not included in the HMZ or the AHZ that is at risk  
 9 of bank erosion from stream flow or mass wasting over the timeline of the CMZ. The channel migration  
 10 zone may not include the area behind a lawfully constructed flood protection device. Channel migration  
 11 zones shall be identified in accordance with guidelines established by the Washington State Department  
 12 of Ecology.

13 ~~“Clearing” means destruction of vegetation by manual, mechanical, or chemical methods resulting in~~  
 14 ~~exposed soils. “Clearing” means the removal of vegetation or plant cover by manual, chemical, or me-~~  
 15 ~~chanical means. Clearing includes, but is not limited to, actions such as cutting, felling, thinning, flood-~~  
 16 ~~ing, killing, poisoning, girdling, uprooting, or burning.~~

Commented [NRS205]: Changed to match the definition in Title 20.

17 “Commercial fish” means those species of fish that are classified under the Washington State Depart-  
 18 ment of Fish and Wildlife Food Fish Classification as commercial fish (WAC [220-12-010](#)).

19 “Compensatory mitigation” means a project for the purpose of mitigating, at an equivalent or greater  
 20 level, unavoidable critical area and buffer impacts that remain after all appropriate and practicable  
 21 avoidance and minimization measures have been implemented. Compensatory mitigation includes, but  
 22 is not limited to: wetland creation, restoration, enhancement, and preservation; stream restoration and  
 23 relocation; rehabilitation; and buffer enhancement.

24 “Conservation” means the prudent management of rivers, streams, wetlands, wildlife and other envi-  
 25 ronmental resources in order to preserve and protect them. This includes the careful ~~utilization~~ use of  
 26 natural resources in order to prevent depletion or harm to the environment.

27 “Conservation easement” means a legal agreement that the property owner enters into to restrict uses  
 28 of the land for purposes of natural resources conservation. The easement is recorded on a property  
 29 deed, runs with the land, and is legally binding on all present and future owners of the property.

30 “Contaminant” means any chemical, physical, biological, or radiological substance that does not occur  
 31 naturally in groundwater, air, or soil or that occurs at concentrations greater than those in the natural  
 32 levels (Chapter [172-200](#) WAC).

33 “County” means Whatcom County, Washington.

34 ~~“Covered assembly” means any structure that has the potential to provide capacity for large numbers of~~  
 35 ~~people or assemblies such as but not limited to convention centers, churches, theatres, etc.~~

36 “Critical aquifer recharge areas” means areas designated by WAC [365-190-080](#)(2) that are determined  
 37 to have a critical recharging effect on aquifers (i.e., maintain the quality and quantity of water) used for  
 38 potable water as defined by WAC [365-190-030](#)(2).

39 “Critical Areas.” The following areas shall be regarded as critical areas:

- 40 1. Critical aquifer recharge areas;
- 41 2. Wetlands;
- 42 3. Geologically hazardous areas;
- 43 4. Frequently flooded areas;

1 5. Fish and wildlife habitat conservation areas.

2 “Critical areas report” means a report prepared by a qualified professional or qualified consultant based  
 3 on best available science, and the specific methods and standards for technical study required for each  
 4 applicable critical area. Geotechnical reports and hydrogeological reports are critical area reports specific  
 5 to geologically hazardous areas and critical aquifer recharge areas, respectively.

6 “Critical area tract” means land held in private ownership and retained in an open undeveloped condi-  
 7 tion (native vegetation is preserved) in perpetuity for the protection of critical areas.

8 ~~“Critical facilities (essential facilities)” means buildings and other structures that are intended to remain  
 9 operational in the event of extreme environmental loading from flood, wind, snow, volcanic activities, or  
 10 earthquakes pursuant to the most current International Building Code (IBC), 2003 Edition. These include,  
 11 but are not limited to:~~

Commented [P/C206]: Get rid of old geohazard facility definitions

- 12 ~~1. Buildings and other structures that represent a substantial hazard to human life in the event of  
 13 failure including, but not limited to:~~
  - 14 ~~a. Buildings and other structures where more than 300 people congregate in one area;~~
  - 15 ~~b. Buildings and other structures with elementary school, secondary school or day care facili-  
 16 ties with an occupant load greater than 250;~~
  - 17 ~~c. Buildings and other structures with an occupant load greater than 500 for colleges or adult  
 18 education facilities;~~
  - 19 ~~d. Health care facilities with an occupant load of 50 or more resident patients but not having  
 20 surgery or emergency treatment facilities;~~
  - 21 ~~e. Jails and detention facilities;~~
  - 22 ~~f. Any other occupancy with an occupant load greater than 5,000;~~
  - 23 ~~g. Power generating stations, water treatment for potable water, wastewater treatment facili-  
 24 ties, and other public utility facilities (not including cell towers) not included in subsection 2  
 25 of this definition;~~
  - 26 ~~h. Buildings and structures not included in subsection 2 of this definition containing sufficient  
 27 quantities of toxic or explosive substances to be dangerous to the public if released.~~
- 28 ~~2. Buildings and other structures designed as essential facilities including, but not limited to:~~
  - 29 ~~a. Hospitals and other health care facilities having surgery or emergency treatment facilities;~~
  - 30 ~~b. Fire, rescue and police stations, and emergency vehicle garages;~~
  - 31 ~~c. Designated earthquake, hurricane, or other emergency shelters;~~
  - 32 ~~d. Designated emergency preparedness, communication, and operation centers and other fa-  
 33 cilities required for emergency response;~~
  - 34 ~~e. Structures containing highly toxic materials as defined by IBC Section 307 where the quanti-  
 35 ty of the material exceeds the maximum allowable quantities of IBC Table 307.7(2);~~
  - 36 ~~f. Aviation control towers, air traffic control centers, and emergency aircraft hangars;~~
  - 37 ~~g. Buildings and other structures having critical national defense functions;~~
  - 38 ~~h. Water treatment facilities required to maintain water pressure for fire suppression;~~
  - 39 ~~i. Power generating stations and other public utility facilities required as emergency backup  
 40 facilities for structures listed above.~~

Commented [CES207]: The 5,000 must have been a typo: All other occupancy limits are in the 50 – 500 range.

41 “Critical habitat” means habitat areas with which endangered, threatened, sensitive or monitored plant,  
 42 fish, or wildlife species have a primary association (e.g., feeding, breeding, rearing of young, migrating).  
 43 Such areas are identified herein with reference to lists, categories, and definitions promulgated by the  
 44 Washington State Department of Fish and Wildlife as identified in WAC [232-12-011](#) or [232-12-014](#); in  
 45 the Priority Habitat and Species (PHS) Program of the Department of Fish and Wildlife; or by rules and

1 regulations adopted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other  
 2 agency with jurisdiction for such designations.

3 “Critical Saltwater Habitat” includes all kelp beds, eelgrass beds, spawning and holding areas for forage  
 4 fish, such as pacific herring, surf smelt and pacific sandlance; subsistence, commercial and recreational  
 5 shellfish beds; mudflats, intertidal habitats with vascular plants, and areas with which priority species  
 6 have a primary association.

7 “Cumulative Impact” means effects on the environment that are caused by the combined results of past,  
 8 current and reasonably foreseeable future activities. Evaluation of such cumulative impacts should con-  
 9 sider: (i) current circumstances affecting the critical area and relevant natural processes; (ii) reasonably  
 10 foreseeable future development that may affect the critical area; and (iii) beneficial effects of any estab-  
 11 lished regulatory programs under other local, state, and federal laws.

12 “Debris flow” means a moving mass of rock fragments, soil, and mud, more than half of the particles  
 13 being larger than sand size; a general term that describes a mass movement of sediment mixed with  
 14 water and air that flows readily on low slopes.

15 “Debris torrent” means a violent and rushing mass of water, logs, boulders and other debris.

16 “Deepwater habitats” means permanently flooded lands lying below the deepwater boundary of wet-  
 17 lands. Deepwater habitats include environments where surface water is permanent and often deep, so  
 18 that water, rather than air, is the principal medium in which the dominant organisms live. The boundary  
 19 between wetland and deepwater habitat in the marine and estuarine systems coincides with the eleva-  
 20 tion of the extreme low water of spring tide; permanently flooded areas are considered deepwater habi-  
 21 tats in these systems. The boundary between wetland and deepwater habitat in the riverine and lacus-  
 22 trine systems lies at a depth of two meters (6.6 feet) below low water; however, if emergent vegetation,  
 23 shrubs, or trees grow beyond this depth at any time, their deepwater edge is the boundary.

24 “Delineation” means the precise determination of wetland/non-wetland boundaries in the field accord-  
 25 ing to the application of the specific method described in the 1997 Washington State Wetland Delinea-  
 26 tion Manual and/or the Corps of Engineers Wetlands Delineation Manual, 1987 Edition, as amended and  
 27 the Western Mountains, Valleys, and Coast Region supplement (Version 2.0) 2010 or as revised.

28 “Designated Species, Federal.” Federally designated endangered and threatened species are those fish  
 29 and wildlife species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries  
 30 Service that are in danger of extinction or threatened to become endangered. The U.S. Fish and Wildlife  
 31 Service and the National Marine Fisheries Service should be consulted for current listing status.

32 “Designated Species, State.” State designated endangered, threatened, and sensitive species are those  
 33 fish and wildlife species native to the state of Washington identified by the Washington Department of  
 34 Fish and Wildlife, that are in danger of extinction, threatened to become endangered, vulnerable, or  
 35 declining and are likely to become endangered or threatened in a significant portion of their range with-  
 36 in the state without cooperative management or removal of threats. State designated endangered,  
 37 threatened, and sensitive species are periodically recorded in WAC 232-12-014 (state endangered spe-  
 38 cies) and WAC 232-12-011 (state threatened and sensitive species). The State Department of Fish and  
 39 Wildlife maintains the most current listing and should be consulted for current listing status.

40 “Development” means any activity that requires federal, state, or local approval for the use or modifica-  
 41 tion of land or its resources. These activities include, but are not limited to: subdivision and short subdivi-  
 42 sions; binding site plans; planned unit developments; variances; shoreline substantial development  
 43 permits and exemptions; clearing activity; fill and grade work; activity conditionally allowed; building or  
 44 construction; revocable encroachment permits; and septic approval.

Commented [CAC208]: Paraphrased from WAC 173-26-186(8)(d) of the Shoreline Management Act.

1 ~~“Drainage d~~Ditch” or “Drainage Ditch” means an artificially created watercourse constructed to drain  
 2 convey surface or groundwater. Ditches are graded (manmade) channels installed to collect and convey  
 3 runoff water to or from fields and roadways. Ditches may include:

- 4 • irrigation ditches,
- 5 • waste ways,
- 6 • drains,
- 7 • outfalls,
- 8 • operational spillways,
- 9 • channels,
- 10 • stormwater runoff facilities
- 11 • or other wholly artificial watercourses, ~~except those that directly result from the modification to~~  
 12 ~~a natural watercourse.~~

13 ~~Ditched channels that support fish are considered to be streams, or other artificial water courses where~~  
 14 ~~natural streams existed prior to human alteration, and/or~~  
 15 ~~the waterway is used by anadromous or resident salmonid or other fish populations, or~~  
 16 ~~flows directly into shellfish habitat conservation areas~~

17 ~~are not considered ditches, but are considered streams for the purposes of this Chapter.~~ “Emergency  
 18 activities” means those activities which require immediate action within a time too short to allow full  
 19 compliance with this chapter due to an unanticipated and imminent threat to public health, safety or  
 20 the environment. Emergency construction does not include development of new permanent protective  
 21 structures where none previously existed. All emergency construction shall be consistent with the poli-  
 22 cies of Chapter 90.58 RCW and this chapter. As a general matter, flooding or other seasonal events that  
 23 can be anticipated and may occur but that are not imminent are not an emergency.

Commented [CES209]: Trying to clear up the confusion between ditches and streams.

24 “Emergent wetland” means a wetland with at least 30% ~~percent~~ of the surface area covered by erect,  
 25 rooted, herbaceous vegetation as the uppermost vegetative strata.

26 “Enhancement” means actions performed within an existing degraded critical area and/or buffer to in-  
 27 tentionally increase or augment one or more functions or values of the existing critical area or buffer.  
 28 Enhancement actions include, but are not limited to, increasing plant diversity and cover, increasing  
 29 wildlife habitat and structural complexity (snags, woody debris), installing environmentally compatible  
 30 erosion controls, or removing nonindigenous plant or animal species.

31 “Erosion” means a process whereby wind, rain, water and other natural agents mobilize, transport, and  
 32 deposit soil particles.

33 “Erosion hazard areas” means lands or areas underlain by soils identified by the U.S. Department of Ag-  
 34 riculture Natural Resource Conservation Service (NRCS) as having “severe” or “very severe” erosion haz-  
 35 ards and areas subject to impacts from lateral erosion related to moving water such as river channel mi-  
 36 gration and shoreline retreat.

37 ~~“Essential facilities” means those facilities that are necessary to maintain life, health, welfare, and safe-  
 38 ty functions such as but not limited to: fire and police stations; emergency medical facilities or medical  
 39 facilities containing surgery or emergency treatment areas; emergency response services or prepared-  
 40 ness centers and their associated buildings, shelters, or vehicle storage areas; jails; and detention cen-  
 41 ters; structures and equipment in government communications centers and other facilities required for  
 42 emergency response; power generating stations, standby power generating equipment or other types of~~

1 ~~public utility facilities that if interrupted would cause disruption to normal living and business opera-~~  
 2 ~~tions; and wastewater treatment plants.~~

3 ~~“Essential public facilities” means those facilities that are typically difficult to site, such as airports, state~~  
 4 ~~education facilities, state or regional transportation facilities, state and local correctional facilities, solid~~  
 5 ~~waste handling facilities, and inpatient facilities including substance abuse facilities, mental health facili-~~  
 6 ~~ties, and group homes.~~

7 “Estuarine wetland” means the zero-gradient sector of a stream where it flows into a standing body of  
 8 water together with associated natural wetlands; tidal flows reverse flow in the wetland twice daily, de-  
 9 termining its upstream limit. It is characterized by low bank channels (distributaries) branching off the  
 10 main stream to form a broad, near-level delta; bank; bed and delta materials are silt and clay; banks are  
 11 stable; vegetation ranges from marsh to forest; and water is usually brackish due to daily mixing and  
 12 layering of fresh and salt water.

13 “Exotic” means any species of plants or animals that is not indigenous to the area.

14 “Farm pond” means an open water depression created from a non-wetland site in connection with agri-  
 15 cultural activities.

16 ~~“Feasible” means an action, such as a development project, mitigation, or preservation requirement~~  
 17 ~~that meets all of the following conditions:~~

18 ~~a. The action can be accomplished with technologies and methods that have been used in the past~~  
 19 ~~in similar circumstances, or studies or tests have demonstrated in similar circumstances that~~  
 20 ~~such approaches are currently available and likely to achieve the intended results;~~

21 ~~b. The action provides a reasonable likelihood of achieving its intended purpose; and,~~

22 ~~c. The action does not physically preclude achieving the project’s primary intended legal use.~~

23 ~~In cases where this chapter requires certain actions, “unless they are infeasible,” the burden of proving~~  
 24 ~~infeasibility is on the applicant/ proponent. In determining an action’s infeasibility, the county may~~  
 25 ~~weigh the action’s relative costs and public benefits, considered in the short- and long-term time~~  
 26 ~~frames.~~

27 “Feasible alternative” means an action, such as development, mitigation, or restoration, that meets all  
 28 of the following conditions: (1) the action can be accomplished with technologies and methods that  
 29 have been used in the past in similar circumstances, or studies or tests have demonstrated in similar  
 30 circumstances that such approaches are currently available and likely to achieve the intended results; (2)  
 31 the action provides a reasonable likelihood of achieving its intended purpose; and (3) the action does  
 32 not physically preclude achieving the project’s primary intended legal use. Feasibility shall take into ac-  
 33 count both short- and long-term monetary and nonmonetary costs and benefits.

34 “Fen” means a mineral-rich wetland formed in peat that has a neutral to alkaline pH. Fens are wholly or  
 35 partly covered with water and dominated by grass-like plants, grasses, and sedges.

36 “Filling” means the act of transporting or placing by any manual or mechanical means fill material from,  
 37 to, or on any soil surface, including temporary stockpiling of fill material.

38 “Fill material” means any solid or semi-solid material, including rock, sand, soil, clay, plastics, construc-  
 39 tion debris, wood chips, overburden from mining or other excavation activities, and materials used to  
 40 create any structure or infrastructure that, when placed, changes the grade or elevation of the receiving  
 41 site.

42 ~~“Fish and wildlife habitat conservation areas” are areas that serve a critical role in sustaining needed~~  
 43 ~~habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the~~

1 likelihood that the species will persist over the long term. These areas may include, but are not limited  
 2 to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including sea-  
 3 sonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative  
 4 population density or species richness. Counties and cities may also designate locally important habitats  
 5 and species. "Fish and wildlife habitat conservation areas" does not include such artificial features or  
 6 constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches  
 7 that lie within the boundaries of, and are maintained by, a port district or an irrigation district or com-  
 8 pany means areas important for maintaining species in suitable habitats within their natural geographic  
 9 distribution so that isolated populations are not created.

10 "Fish habitat" means a complex of physical, chemical, and biological conditions that provide the life-  
 11 supporting and reproductive needs of a species or life stage of fish. Although the habitat requirements  
 12 of a species depend on its age and activity, the basic components of fish habitat in rivers, streams,  
 13 ponds, lakes, estuaries, marine waters, and nearshore areas include, but are not limited to, the follow-  
 14 ing:

- 15 1. Clean water and appropriate temperatures for spawning, rearing, and holding;
- 16 2. Adequate water depth and velocity for migrating, spawning, rearing, and holding, including off-  
 17 channel habitat;
- 18 3. Abundance of bank and in-stream structures to provide hiding and resting areas and stabilize  
 19 stream banks and beds;
- 20 4. Appropriate substrates for spawning and embryonic development. For stream- and lake-  
 21 dwelling fishes, substrates range from sands and gravel to rooted vegetation or submerged  
 22 rocks and logs. Generally, substrates must be relatively stable and free of silts or fine sand;
- 23 5. Presence of riparian vegetation as defined in this article. Riparian vegetation creates a transition  
 24 zone, which provides shade and food sources of aquatic and terrestrial insects for fish;
- 25 6. Unimpeded passage (i.e., due to suitable gradient and lack of barriers) for upstream and down-  
 26 stream migrating juveniles and adults.

27 "Flood" or "flooding" means a general and temporary condition of partial or complete inundation of  
 28 normally dry land areas from the overflow of inland waters and/or the unusual and rapid accumulation  
 29 of runoff of surface waters from any source.

30 "Floodplain" means the total land area adjoining a river, stream, watercourse, or lake subject to inunda-  
 31 tion by the base flood.

32 "Floodway" means the channel of a river or other watercourse and the adjacent land area that must be  
 33 reserved in order to discharge the base flood without cumulatively increasing the surface water eleva-  
 34 tion more than one foot. Also known as the "zero rise floodway."

35 "Forested wetland" means a wetland with at least 30% ~~percent~~ of the surface area covered by woody  
 36 vegetation greater than 20 feet in height, excluding monotypic stands of red alder or cottonwood that  
 37 average eight inches in diameter at breast height or less.

38 "Frequently flooded areas" means lands in the floodplain subject to a ~~one percent~~ 1% or greater chance  
 39 of flooding in any given year and those lands that provide important flood storage, conveyance and at-  
 40 tenuation functions, as determined by the County in accordance with WAC [365-190-080](#)(3). Classifica-  
 41 tions of frequently flooded areas include, at a minimum, the "Special Flood Hazard Area" ~~100-year~~  
 42 ~~floodplain~~ designations of the Federal Emergency Management Agency and the National Flood Insur-  
 43 ance Program.

44 "Functions, services, and value" means the beneficial ~~functions that roles served by~~ critical areas ~~per-~~  
 45 ~~form, the services they provide humans,~~ and the values people derive from these roles including, but

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1 not limited to, water quality protection and enhancement, fish and wildlife habitat, food chain support,  
 2 flood storage, conveyance and attenuation, groundwater recharge and discharge, erosion control, wave  
 3 attenuation, protection from hazards, providing historical and archaeological resources, noise and visual  
 4 screening, open space, and recreation. These beneficial roles are not listed in order of priority.

5 “Function assessment” or “functions and values assessment” means a set of procedures, applied by a  
 6 qualified consultant, to identify the ecological functions being performed in a wetland or other critical  
 7 area, usually by determining the presence of certain characteristics, and determining how well the criti-  
 8 cal area is performing those functions. Function assessments can be qualitative or quantitative and may  
 9 consider social values potentially provided by the wetland or other critical area. Function assessment  
 10 methods must be consistent with best available science.

11 “Functions” means the processes or attributes provided by areas of the landscape (e.g., wetlands, rivers,  
 12 streams, and riparian areas) including, but not limited to, habitat diversity and food chain support for  
 13 fish and wildlife, groundwater recharge and discharge, high primary productivity, low flow stream water  
 14 contribution, sediment stabilization and erosion control, storm and flood water attenuation and flood  
 15 peak desynchronization, and water quality enhancement through biofiltration and retention of sedi-  
 16 ments, nutrients, and toxicants. These beneficial roles are not listed in order of priority.

17 “Game fish” means those species of fish that are classified by the Washington State Department of Wild-  
 18 life as game fish (WAC [232-12-019](#)).

19 “Geologically hazardous areas” means areas that, because of their susceptibility to erosion, sliding,  
 20 earthquake, or other geological events, ~~pose unacceptable risks to public health and safety and may be~~  
 21 ~~not be suited to the siting of commercial, residential, or industrial development consistent with public~~  
 22 ~~health or safety concerns.~~

Commented [CES210]: To make consistent with the GMA definition RCW 36.70A.030(9).

23 “Gradient” means a degree of inclination, or a rate of ascent or descent, of an inclined part of the  
 24 earth’s surface with respect to the horizontal; the steepness of a slope. It is expressed as a ratio (vertical  
 25 to horizontal), a fraction (such as meters/kilometers or feet/miles), a percentage (of horizontal dis-  
 26 tance), or an angle (in degrees).

27 “Grading” means any excavating or filling of the earth’s surface or combination thereof.

28 “Grazable acres” means both pasture and hayland as described in the Whatcom County Standard Farm  
 29 Conservation Planning Workbook.

30 “Groundwater” means all water that exists beneath the land surface or beneath the bed of any stream,  
 31 lake or reservoir, or other body of surface water within the boundaries of the state, whatever may be  
 32 the geological formation or structure in which such water stands or flows, percolates or otherwise  
 33 moves (Chapter [90.44](#) RCW).

34 “Groundwater management area” means a specific geographic area or subarea designated pursuant to  
 35 Chapter [173-100](#) WAC for which a groundwater management program is required.

36 “Groundwater management program” means a comprehensive program designed to protect groundwa-  
 37 ter quality, to assure groundwater quantity, and to provide for efficient management of water resources  
 38 while recognizing existing groundwater rights and meeting future needs consistent with local and state  
 39 objectives, policies and authorities within a designated groundwater management area or subarea and  
 40 developed pursuant to Chapter [173-100](#) WAC.

41 “Growing season” means the portion of the year when soil temperatures are above biologic zero (41  
 42 degrees Fahrenheit).

1 “Growth Management Act” means Chapters [36.70A](#) and [36.70B](#) RCW, as amended.

2 ~~“Habitats of local importance” designated as fish and wildlife habitat conservation areas include those~~  
 3 ~~areas found to be locally important by Whatcom County pursuant to WCC 16.16.710(C)(14).~~

Commented [TAC211]: From WAC 365-190-030

4 “Hazard tree” means any tree that is susceptible to immediate fall due to its condition (damaged, dis-  
 5 eased, or dead) or other factors, and which because of its location is at risk of damaging permanent  
 6 physical improvements to property or causing personal injury.

7 ~~“Hazardous facilities” means those occupancies or structures housing or supporting toxic or explosive~~  
 8 ~~chemicals or substances and any non-building structures housing, supporting or containing quantities of~~  
 9 ~~toxic or explosive substances that, if contained within a building, would cause that building to be de-~~  
 10 ~~defined as a hazardous facility. Hazardous facilities include any elements contained in the definition for~~  
 11 ~~“hazardous waste treatment and storage facility.” Hazardous facilities may be classified as a group “H”~~  
 12 ~~occupancy in the UBC.~~

13 “Hazardous substance” means any liquid, solid, gas, or sludge, including any material, substance, prod-  
 14 uct, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical or biological  
 15 properties described in WAC [173-303-090](#) or [173-303-100](#).

16 “High intensity land use” means land use that includes the following uses or activities: commercial, ur-  
 17 ban, industrial, institutional, retail sales, residential (more than one unit/acre), high-intensity new agri-  
 18 culture (dairies, nurseries, greenhouses, raising and harvesting crops requiring annual tilling, raising and  
 19 maintaining animals), high-intensity recreation (golf courses, ball fields), hobby farms, and Class IV Spe-  
 20 cial forest practices, including the building of logging roads (note that pursuant to WCC 16.16.230(A) all  
 21 other forest practices are exempt from this chapter).

22 “Hydraulic project approval (HPA)” means a permit issued by the State Department of Fish and Wildlife  
 23 for modifications to waters of the state in accordance with Chapter [75.20](#) RCW.

24 “Hydric soil” means a soil that is or has been saturated, flooded or ponded long enough during the grow-  
 25 ing season to develop anaerobic conditions in the upper part. The presence of hydric soil shall be de-  
 26 termined following the methods described in the NRCS Field Indicators of Hydric Soils version 7, and/or  
 27 the Corps of Engineers Wetlands Delineation Manual, as amended Washington State Wetland Identifica-  
 28 tion and Delineation Manual (RCW 36.70A.175).

Commented [CES212]: These are the references used by everyone these days.

29 “Hydrologic soil groups” means soils grouped according to their runoff-producing characteristics under  
 30 similar storm and cover conditions. Properties that influence runoff potential are depth to seasonally  
 31 high water table, intake rate and permeability after prolonged wetting, and depth to a low permeable  
 32 layer. Hydrologic soil groups are normally used in equations that estimate runoff from rainfall, but can  
 33 be used to estimate a rate of water transmission in soil. There are four hydrologic soil groups:

- 34 1. Low runoff potential and a high rate of infiltration potential;
- 35 2. Moderate infiltration potential and a moderate rate of runoff potential;
- 36 3. Slow infiltration potential and a moderate to high rate of runoff potential; and
- 37 4. High runoff potential and very slow infiltration and water transmission rates.

38 “Hydrophytic vegetation” means macrophytic plant life growing in water or on a substrate that is at  
 39 least periodically deficient in oxygen as a result of excessive water content.

40 “Hyporheic zone” means the saturated zone located beneath and adjacent to streams that contain some  
 41 proportion of surface water from the surface channel. The hyporheic zone serves as a filter for nutrients,  
 42 as a site for macroinvertebrate production important in fish nutrition and provides other functions re-  
 43 lated to maintaining water quality.

1 “Impervious surface” means a hard surface area that either prevents or retards the entry of water into  
2 the soil mantle as under natural conditions prior to development or that causes water to run off the sur-  
3 face in greater quantities or at an increased rate of flow compared to natural conditions prior to devel-  
4 opment. Common impervious surfaces may include, but are not limited to, roof tops, walkways, patios,  
5 driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen mate-  
6 rials, and oiled macadam or other surfaces which similarly impede the natural infiltration of stormwater.  
7 Impervious surfaces do not include surface created through proven low impact development tech-  
8 niques.

9 “Infiltration” means the downward entry of water into the immediate surface of soil.

10 “In-kind compensation” means to replace critical areas with substitute areas whose characteristics and  
11 functions mirror those destroyed or degraded by a regulated activity.

12 “Intertidal zone” means the substratum from extreme low water of spring tides to the upper limit of  
13 spray or influence from ocean-derived salts. It includes areas that are sometimes submerged and some-  
14 times exposed to air, mud and sand flats, rocky shores, salt marshes, and some terrestrial areas where  
15 salt influences are present.

16 “Invasive species” means a species that is: (1) nonnative (or alien) to Whatcom County, and (2) whose  
17 introduction causes or is likely to cause economic or environmental harm or harm to human health. In-  
18 vasive species can be plants, animals, and other organisms (e.g., microbes). Human actions are the pri-  
19 mary means of invasive species introductions.

20 “Lahar” means a mudflow and debris flow originating from the slopes of a volcano.

21 “Lahar ~~inundation-hazardzone area~~” means areas that have been or potentially could be inundated by  
22 lahars or other types of debris flows, according to a map showing Volcano Hazards from Mount Baker,  
23 Washington.

24 “Lake” means a naturally or artificially created body of deep (generally greater than 6.6 feet) open water  
25 that persists throughout the year. A lake is larger than a pond, greater than one acre in size, equal to or  
26 greater than 6.6 feet in depth, and has less than 30% ~~percent~~ aerial coverage by trees, shrubs, or persis-  
27 tent emergent vegetation. A lake is bounded by the ordinary high water mark or the extension of the  
28 elevation of the lake’s ordinary high water mark with the stream where the stream enters the lake.

29 “Landfill” means a disposal facility or part of a facility at which solid waste is permanently placed in or on  
30 land including facilities that use solid waste as a component of fill.

31 “Landslide” means a general term covering a wide variety of mass movement landforms and processes  
32 involving the downslope transport, under gravitational influence of soil and rock material en masse; in-  
33 cluded are debris flows, debris avalanches, earthflows, mudflows, slumps, mudslides, rock slides, and  
34 rock falls.

35 “Landslide hazard areas” means areas that, due to a combination of site conditions like slope inclination  
36 and relative soil permeability, are susceptible to mass wasting.

37 “Low intensity land use” means land use that includes the following uses or activities: forestry (cutting  
38 of trees only), low-intensity open space (such as passive recreation and natural resources preservation),  
39 and unpaved trails.

40 “Maintenance or repair” means those usual activities required to prevent a decline, lapse or cessation  
41 from a lawfully established condition or to restore the character, scope, size, and design of a serviceable  
42 area, structure, or land use to a state comparable to its previously authorized and undamaged condition.

1 This does not include any activities that change the character, scope, or size of the original structure,  
2 facility, utility or improved area beyond the original design.

3 “Major development” means any project for which a major project permit is required pursuant to Chap-  
4 ter [20.88](#) WCC. For the purposes of this chapter, “major development” shall also mean any project asso-  
5 ciated with an existing development for which a major development permit has been required or other  
6 existing legally nonconforming development for which a major development permit would otherwise be  
7 required if developed under the current land use regulations outlined in WCC Title [20](#).

8 “Mass wasting” means downslope movement of soil and rock material by gravity. This includes soil  
9 creep, erosion, and various types of landslides, not including bed load associated with natural stream  
10 sediment transport dynamics.

11 “Mature forested wetland” means a wetland with an overstory dominated by mature trees having a  
12 wetland indicator status of facultative (FAC), facultative-wet (FACW), or obligate (OBL). Mature trees are  
13 considered to be at least 21 inches in diameter at breast height.

14 “Maximum Credible Event” means the largest debris flow event that can be hypothesized from geologic  
15 processes within the watershed above the alluvial fan with consideration of the volume of sediment  
16 and debris that would be available within the drainage combined with the material from landslides  
17 that would enter the drainage, and the volume of water that could become trapped behind and within  
18 the debris flow or dammed within the drainage.

19 “May” means the action is allowable, provided it conforms to the provisions of this Title.

20 “Mean annual flow” means the average flow of a river or stream (measured in cubic feet per second)  
21 from measurements taken throughout the year. If available, flow data for the previous 10 years should  
22 be used in determining mean annual flow.

23 “Mitigation” means individual actions that may include a combination of the following measures, listed  
24 in order of preference:

- 25 1. Avoiding an impact altogether by not taking a certain action or parts of actions;
- 26 2. Minimizing impacts by limiting the degree or magnitude of an action and its implementation;
- 27 3. Rectifying impacts by repairing, rehabilitating, or restoring the affected environment;
- 28 4. Reducing or eliminating an impact over time by preservation and maintenance operations dur-  
29 ing the life of the action;
- 30 5. Compensating for an impact by replacing or providing substitute resources or environments;  
31 and
- 32 6. Monitoring the mitigation and taking remedial action when necessary.

33 “Mitigation bank” means a site where wetlands or similar habitats are restored, created, enhanced, or in  
34 exceptional circumstances, preserved, expressly for the purpose of providing compensatory mitigation  
35 in advance of authorized impacts to aquatic resources.

36 “Mitigation bank instrument” means the documentation of agency and bank sponsor concurrence on  
37 the objectives and administration of the bank. The “bank instrument” describes in detail the physical  
38 and legal characteristics of the bank, including the service area, and how the bank will be established  
39 and operated.

40 “Mitigation Bank Review Team” or “MBRT” means an interagency group of federal, state, tribal and local  
41 regulatory and resource agency representatives that are invited to participate in negotiations with the  
42 bank sponsor on the terms and conditions of the bank instrument.

1 “Mitigation Bank Review Team process” or “MBRT process” means a process in which the County and  
 2 other agencies strives to reach consensus with the MBRT members on the terms, conditions, and proce-  
 3 dural elements of the bank instrument.

4 “Mitigation bank sponsor” means any public or private entity responsible for establishing and, in most  
 5 circumstances, operating a bank.

6 “Mitigation plan” means a detailed plan indicating actions necessary to mitigate adverse impacts to crit-  
 7 ical areas.

8 “Moderate intensity land use” means land use that includes the following uses or activities: residential  
 9 (one unit/~~gross~~ acre or less), moderate-intensity open space (parks), moderate-intensity new agriculture  
 10 (orchards and hay fields), ~~plant nurseries, and paved trails, and building of logging roads.~~

Commented [CAC213]: Nurseries are already listed as high intensity.

11 “Monitoring” means evaluating the impacts of development proposals over time on the biological, hy-  
 12 drological, pedological, and geological elements of ecosystem functions and processes, and/or assessing  
 13 the performance of required mitigation measures through the collection and analysis of data by various  
 14 methods for the purpose of understanding and documenting changes in natural ecosystems and fea-  
 15 tures compared to baseline or pre-project conditions and/or reference sites.

16 “Native vegetation” means plant species that are indigenous to Whatcom County and the local area.

17 “Nearshore habitat” means the zone that extends seaward from the marine shoreline to a water depth  
 18 of approximately 20 meters (66 feet). Nearshore habitat is rich biologically, providing important habitat  
 19 for a diversity of plant and animal species.

20 “No net loss” means the maintenance of the aggregate total of the County’s critical area functions and  
 21 values as achieved through a case-by-case review of development proposals. Each project shall be eval-  
 22 uated based on its ability to meet the no net loss goal.

23 “Off-site mitigation” means to replace critical areas away from the site on which a critical area has been  
 24 adversely impacted by a regulated activity.

25 “Ongoing agriculture” means those activities conducted on lands defined in RCW [84.34.020\(2\)](#), and  
 26 those activities involved in the production of crops and livestock, including, but not limited to, operation  
 27 and maintenance of existing farm and stock ponds or drainage ditches, irrigation systems, changes be-  
 28 tween agricultural activities, and maintenance or repair of existing serviceable structures and facilities.  
 29 Activities that bring an area into agricultural use are not part of an ongoing activity. An operation ceases  
 30 to be ongoing when the area on which it was conducted has been converted to a nonagricultural use, or  
 31 has lain idle for more than five consecutive years unless that idle land is registered in a federal or state  
 32 soils conservation program. Forest practices are not included in this definition.

33 “Ordinary high water mark” means the mark or line on all lakes, rivers, streams, and tidal water that will  
 34 be found by examining the beds and banks and ascertaining where the presence and action of waters  
 35 are so common and usual and so long continued in all ordinary years, as to mark upon the soil a charac-  
 36 ter distinct from that of the abutting upland in respect to vegetation (RCW [90.58.030\(2\)\(b\)](#)).

37 ~~“Overnight accommodations,” for the purposes of this chapter only, means any use that allows more  
 38 than 10 persons to sleep overnight, either as a primary use (such as hotels/motels, camps, or other lodg-  
 39 ing), or occasionally (such as churches hosting sleepovers), whether in a bed or otherwise. While this  
 40 latter group of uses may be allowed, hosting overnight groups shall not be and the permit authorizing  
 41 the use shall include such a condition.~~

1 “Person” means an individual, partnership, corporation, association, organization, cooperative, public or  
 2 municipal corporation, state agency or local governmental unit, however designated, or Indian nation or  
 3 tribe.

4 “Planned unit development (PUD)” means one or a group of specified uses, such as residential, resort,  
 5 commercial or industrial, to be planned and constructed as a unit. Zoning or subdivision regulations with  
 6 respect to lot size, building bulk, etc., may be varied to allow design innovations and special features in  
 7 exchange for additional and/or superior site amenities or community benefits.

8 ~~“Qualified planning advisor” means those qualified individuals who have technical experience and  
 9 training necessary to prepare conservation farm plans for agricultural lands and who have: Completed  
 10 the two week training course delivered by the technical administrator and achieved a minimum of 75  
 11 percent on the course exam and assignments and signed the practice and confidentiality agreement; or  
 12 been certified a technical service provider by the USDA Natural Resources Conservation Service (see  
 13 <http://techreg.usda.gov>) and signed the practice and confidentiality agreement.~~

Commented [CES214]: Only the term “planning advisory” is used in this code, not “qualified planning advisor.”

Commented [CES215]: No staff’s knowledge, this has never been implemented.

14 “Pond” means an open body of water, generally equal to or greater than 6.6 feet deep, that persists  
 15 throughout the year and occurs in a depression of land or expanded part of a stream and has less than  
 16 30% ~~percent~~ aerial coverage by trees, shrubs, or persistent emergent vegetation. Ponds are generally  
 17 smaller than lakes. Farm ponds, ~~ponds built for the primary purpose of combating fires, stormwater fa-  
 18 cilities, are excluded from this definition. and B~~ beaver ponds ~~less than~~ ~~are~~ two years old ~~or less~~ are ex-  
 19 cluded from this definition.

20 “Potable” means water that is suitable for drinking by the public (Chapter [246-290](#) WAC).

21 “Preservation” means actions taken to ensure the permanent protection of existing, ecologically im-  
 22 portant critical areas and/or buffers that the County has deemed worthy of long-term protection.

23 ~~“Prior Converted Croplands” (PCCs) are identified for the purpose of implementing the Food Security Act  
 24 (FSA), and refers to wetlands that were converted from a non-agricultural use to production of a com-  
 25 modity crop prior to December 23, 1985. In other words, PCCs are wetlands that were drained, dredged,  
 26 filled, leveled, or otherwise manipulated, including the removal of woody vegetation, to enable produc-  
 27 tion of an agricultural commodity.~~

28 ~~To be considered a PCC, the area must have had an agricultural commodity planted or produced at  
 29 least once prior to December 23, 1985. After 1985 these sites must continue to be in active agricultural  
 30 use. This means a commodity crop that requires annual tilling must be produced at least once every five  
 31 years.~~

32 ~~In addition, PCCs must not have standing water present for more than 14 consecutive days during  
 33 the growing season. If an agricultural site has standing water for greater than 14 consecutive days it  
 34 would be considered a “farmed wetland.” Many farmed areas in valleys flood throughout the winter and  
 35 would not be considered PCC. Therefore, it is important to document surface water levels throughout  
 36 the year (i.e., determining the hydroperiod during the dry season alone is not adequate).~~

Commented [P/C216]: Not needed as none of the regulations contained in this chapter rely on this definition.

37 “Primary association” means the use or potential use of a habitat area by a listed or priority species for  
 38 breeding/spawning, rearing young, resting, roosting, feeding, foraging, and/or migrating on a frequent  
 39 and/or regular basis during the appropriate season(s) as well as habitats that are used less frequent-  
 40 ly/regularly but which provide for essential life cycle functions such as breeding/nesting/spawning.

41 “Priority habitat” means a habitat type with unique or significant value to one or more species. An area  
 42 classified and mapped as priority habitat must have one or more of the following attributes: compara-  
 43 tively high fish or wildlife density; comparatively high fish or wildlife species diversity; fish spawning hab-  
 44 itat; important wildlife habitat; important fish or wildlife seasonal range; important fish or wildlife

1 movement corridor; rearing and foraging habitat; important marine mammal haulout; refuge; limited  
 2 availability; high vulnerability to habitat alteration; unique or dependent species; or shellfish bed. A pri-  
 3 ority habitat may be described by a unique vegetation type or by a dominant plant species that is of  
 4 primary importance to fish and wildlife (such as oak woodlands or eelgrass meadows). A priority habitat  
 5 may also be described by a successional stage (such as old growth and mature forests). Alternatively, a  
 6 priority habitat may consist of a specific habitat element (such as a consolidated marine/estuarine  
 7 shoreline, talus slopes, caves, snags) of key value to fish and wildlife. A priority habitat may contain pri-  
 8 ority and/or non-priority fish and wildlife (WAC [173-26-020\(24\)](#)).

9 “Priority species” means wildlife species of concern due to their population status and their sensitivity to  
 10 habitat alteration, as defined by the Washington State Department of Fish and Wildlife.

11 “Project” means any proposed or existing activity regulated by Whatcom County.

12 “Project permit” or “project permit application” means any land use or environmental permit or ap-  
 13 proval required by Whatcom County, including, but not limited to, building permits, subdivisions, bind-  
 14 ing site plans, planned unit developments, conditional uses, shoreline substantial development permits,  
 15 variances, lot consolidation relief, site plan review, permits or approvals authorized by a comprehensive  
 16 plan or subarea plan.

17 ~~“Qualified planning advisor” means those individuals who have technical experience and training neces-  
 18 sary to prepare farm conservation plans for agricultural lands and who have:~~

- 19 ~~1. Completed the two-week training course delivered by the technical administrator and achieved  
 20 a minimum of 75 percent on the course exam and assignments and signed the practice and con-  
 21 fidentiality agreement; or~~
- 22 ~~2. Been certified a technical service provider by the USDA Natural Resources Conservation Service  
 23 (see <http://techreg.usda.gov>) and signed the practice and confidentiality agreement.~~

24 “Qualified professional” or “qualified consultant” means a person with experience and training with ex-  
 25 pertise appropriate for the relevant critical area subject in accordance with WAC [365-195-905\(4\)](#). A  
 26 qualified professional must have obtained a B.S. or B.A. or equivalent degree in biology, soil science, en-  
 27 gineering, environmental studies, fisheries, geology, geomorphology or a related field, and related work  
 28 experience, and meet the following criteria:

- 29 1. [Is listed on a roster of qualified professionals or qualified consultants prepared by the PDS Natu-  
 30 ral Resource Supervisor.](#)
- 31 2. A qualified professional for wetlands must have a degree in [wildlife](#) biology, ecology, soil sci-  
 32 ence, botany, or a closely related field and a minimum of ~~five~~ three years of professional experi-  
 33 ence in wetland ~~delineation identification~~ and assessment associated with wetland ecology in  
 34 the Pacific Northwest or comparable systems. The following is required to be [submitted](#) to be  
 35 placed on the roster:
- 36 i. Curriculum vitae or resume; and,
- 37 ii. Three complete and approved wetland delineations (as primary author on at least one),  
 38 conducted in accordance with the U.S. Army Corps of Engineers *Wetlands Delineation Man-  
 39 ual, 1987, or as amended.*
- 40 ~~iii.~~ One complete and approved wetland delineation using the U.S. Army Corps of Engineers  
 41 Regional Supplement to the Corps of Engineers *Wetland Delineation Manual: Western  
 42 Mountains, Valleys, and Coast Region, 2010, or as amended. Successful completion of a wet-  
 43 land class using this manual may be substituted for this requirement.*
- 44 ~~2-3.~~ A qualified professional for habitat conservation areas must have a degree in wildlife biology,  
 45 ecology, fisheries, or a closely related field and a minimum of three years of professional experi-  
 46 ence related to the subject species/habitat type or approved equivalent work experience.

Commented [NRS217]: This is currant policy.

Commented [NRS218]: Guidance for those to be placed on County Roster

1 ~~3.4.~~ A qualified professional for geologically hazardous areas must be a professional engineering ge-  
2 ologist or geotechnical engineer, licensed in the state of Washington.

3 5. A qualified professional for critical aquifer recharge areas means a Washington State licensed  
4 hydrogeologist, geologist, or engineer.

5 6. A qualified professional for tree risk assessment means a certified arborist or certified tree pro-  
6 fessional with a current ISA Tree Risk Assessment Qualification.

7 ~~4.7.~~ Anyone who has had their professional licensure or certification revoked for violations of the  
8 provisions of their profession does not meet the definition of a qualified professional or quali-  
9 fied consultant.

Commented [CES219]: Need a way to take consultants off the list if they're proven to no longer be effective.

10 "Reasonable Use" means a property that is deprived of all reasonable use when the owner can realize  
11 no reasonable return on the property or make any productive use of the property. Reasonable return  
12 does not mean a reduction in value of the land, or a lack of a profit on the purchase and sale of the  
13 property, but rather, where there can be no beneficial use of the property; and which is attributable to  
14 the implementation of the Critical Areas Ordinance. means any one of the uses allowed within a given  
15 zone that has the least impact on the critical areas found on the subject property. For zones that allow  
16 single family residential uses, this typically would mean a house that has a development footprint (in-  
17 cluding all appurtenances except drainfields) and landscaping of 2,500 square feet or less.

18 "Reasonable Use Exception" means an exception to the standards of this title that allows for any one of  
19 the uses allowed within a given zoning designation which cannot otherwise conform to the require-  
20 ments set forth in this title, including the variance criteria; that have the least impact on the critical are-  
21 as found on the subject property. "Recharge" means the process involved in the absorption and addition  
22 of water from the unsaturated zone to groundwater.

23 "Reestablishment" means the manipulation of the physical, chemical, or biological characteristics of a  
24 site with the goal of returning natural or historic functions to a former critical area. Re-establishment  
25 results in rebuilding a former critical area and results in a gain in acres and functions. Activities could  
26 include removing fill, plugging ditches, or breaking drain tiles. measures taken to intentionally restore an  
27 altered or damaged natural feature or process including:  
28 Active steps taken to restore damaged wetlands, streams, protected habitat, and/or their buffers to the  
29 functioning condition that existed prior to an unauthorized alteration;  
30 Actions performed to reestablish structural and functional characteristics of the critical area that have  
31 been lost by alteration, past management activities, or other events; and  
32 Restoration can include restoration of wetland functions and values on a site where wetlands previously  
33 existed but are no longer present due to lack of water or hydric soils.

Commented [CES220]: To make consistent with USACE defini-  
tion.

34 "Rehabilitation" means the manipulation of the physical, chemical, or biological characteristics of a site  
35 with the goal of repairing natural or historic functions and processes of a degraded critical area. Rehabil-  
36 itation results in a gain in function but does not result in a gain in area. Activities could involve breaching  
37 a dike to reconnect wetlands to a floodplain or returning tidal influence to a wetland, a type of restora-  
38 tion action that restores a critical area to its original form or type such as restoring a wetland to its origi-  
39 nal hydrogeomorphic class.

Commented [CES221]: To make consistent with USACE defini-  
tion.

40 "Resident fish" means a fish species that completes all stages of its life cycle within freshwater and fre-  
41 quently within a local area.

42 "Restoration" means measures taken to restore an altered or damaged natural feature, including:  
43 (a) Active steps taken to restore damaged wetlands, streams, protected habitat, or their buffers to  
44 the functioning condition that existed prior to an unauthorized alteration; and

(a)(b) ~~Actions performed to re-establish structural and functional characteristics of thea critical area that have been lost by alteration, past management activities, or catastrophic events.- See "reestablishment."~~

Commented [CES222]: To make consistent with USACE definition.

"Rills" means steep-sided channels resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery. Rill erosion tends to occur on slopes, particularly steep slopes with poor vegetative cover.

"Riparian corridor" or "riparian zone" means the area adjacent to a water body (stream, lake or marine water) that contains vegetation that influences the aquatic ecosystem, nearshore area and/or fish and wildlife habitat by providing shade, fine or large woody material, nutrients, organic debris, sediment filtration, and terrestrial insects (prey production). Riparian areas include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., zone of influence). Riparian zones provide important wildlife habitat. They provide sites for foraging, breeding and nesting; cover to escape predators or weather; and corridors that connect different parts of a watershed for dispersal and migration.

"Riparian vegetation" means vegetation that tolerates and/or requires moist conditions and periodic free flowing water, thus creating a transitional zone between aquatic and terrestrial habitats which provides cover, shade and food sources for aquatic and terrestrial insects for fish species. Riparian vegetation and their root systems stabilize stream banks, attenuate high water flows, provide wildlife habitat and travel corridors, and provide a source of limbs and other woody debris to terrestrial and aquatic ecosystems, which, in turn, stabilize stream beds.

"Scrub-shrub wetland" means a wetland with at least 30% percent of its surface area covered by woody vegetation less than 20 feet in height as the uppermost strata.

"Seiche" is a standing wave in an enclosed or partially enclosed body of water. Seiches are typically caused when strong winds and rapid changes in atmospheric pressure push water from one end of a body of water to the other. When the wind stops, the water rebounds to the other side of the enclosed area. The water then continues to oscillate back and forth for hours or even days. In a similar fashion, earthquakes, tsunamis, or severe storm fronts may also cause seiches along ocean shelves and ocean harbors. Seiches and seiche-related phenomena have been observed on lakes, reservoirs, swimming pools, bays, harbors and seas. The key requirement for formation of a seiche is that the body of water be at least partially bounded, allowing the formation of the standing wave.

Commented [P/C223]: Added by the P/C

"Seismic hazard areas" means areas that are subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

"SEPA" is a commonly used acronym for the State Environmental Policy Act.

"Shellfish" means invertebrates of the phyla Arthropoda (class Crustacea), Mollusca (class Pelecypoda) and Echinodermata.

"Shellfish habitat conservation areas" means all public and private tidelands suitable for shellfish, as identified by the Washington State Department of Health classification of commercial growing areas, and those recreational harvest areas as identified by the Washington State Department of Ecology are designated as shellfish habitat conservation areas pursuant to WAC 365-190-80. Any area that is or has been designated as a shellfish protection district created under Chapter 90.72 RCW is also a shellfish habitat conservation area.

"Shellfish protection district" means the Drayton Harbor shellfish protection district (DHSPD) and the Portage Bay shellfish protection district (PBSPD) (Chapter 16.20 WCC), or other area formed by the

1 County based on RCW Title [90](#), in response to State Department of Health (DOH) closures or down-  
 2 grades of a commercial shellfish growing area due to a degradation of water quality as a result of pollu-  
 3 tion. These areas include the watershed draining to the shellfish beds as part of the shellfish habitat  
 4 conservation area.

5 “Shorelands” or “shoreland areas” means those lands extending landward for 200 feet in all directions  
 6 as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous flood-  
 7 plain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with the  
 8 streams, lakes and tidal waters which are subject to the provisions of Chapter [90.58](#) RCW.

9 “Shoreline” (Shoreline Management Act) means all of the water areas of the state, including reservoirs  
 10 and their associated wetlands, together with lands underlying them, except:

- 11 1. Shorelines on segments of streams upstream from a point where the mean annual flow is 20  
 12 cubic feet per second or less and the wetlands associated with such upstream segments; and
- 13 2. Shorelines on lakes less than 20 acres in size and wetlands associated with such small lakes.

14 “Shorelines” means all of the water areas of the state as defined in RCW [90.58.030](#), including reservoirs  
 15 and their associated shorelands, together with the lands underlying them, except:

- 16 1. Shorelines of statewide significance;
- 17 2. Shorelines on segments of streams upstream of a point where the mean annual flow is 20 cubic  
 18 feet per second (cfs) or less and the wetlands associated with such upstream segments; and
- 19 3. Shorelines on lakes less than 20 acres in size and wetlands associated with such small lakes.

20 “Shorelines of statewide significance” means those areas defined in RCW [90.58.030\(2\)\(e\)](#).

21 “Shorelines of the state” means the total of all “shorelines,” as defined in RCW [90.58.030\(2\)\(d\)](#), and  
 22 “shorelines of statewide significance” within the state, as defined in RCW [90.58.030\(2\)\(e\)](#).

23 “Single-family development” means the development of a single-family residence permanently installed  
 24 and served with utilities on a lot of record.

25 “Site” means any parcel or combination of contiguous parcels, or right-of-way or combination of contig-  
 26 uous rights-of-way, under the applicants/proponent’s ownership or control that is the subject of a de-  
 27 velopment proposal or change in use.

28 “Slope” means:

- 29 1. Gradient.
- 30 2. The inclined surface of any part of the earth’s surface, delineated by establishing its toe and top  
 31 and measured by averaging the inclination over at least 10 feet of vertical relief.

32 “Soil” means all unconsolidated materials above bedrock described in the Soil Conservation Service Clas-  
 33 sification System or by the Unified Soils Classification System.

34 “Sphagnum bog” means a type of wetland dominated by mosses that form peat. Sphagnum bogs are  
 35 very acidic, nutrient-poor systems, fed by precipitation rather than surface inflow, with specially  
 36 adapted plant communities.

37 ~~“Special occupancies” means those structures that have the potential to provide capacity for special~~  
 38 ~~groups of people such as but not limited to schools, daycare centers, resident incapacitated patients,~~  
 39 ~~etc.~~

40 “Species of local importance” are those species that are of local concern due to their population status  
 41 or their sensitivity to habitat alteration or that are game species.

Commented [TAC224]: From WAC 365-190-030

1 “Stormwater Manual” or “Stormwater Management Manual for Wester Washington” means the version  
 2 of the Department of Ecology’s Stormwater Management Manual for Wester Washington most recently  
 3 adopted by Council.

4 “Streams” means those areas where surface waters flows are sufficient to produce a defined channel or  
 5 bed. A defined channel or bed is an area that demonstrates clear evidence of the ~~annual~~-passage of wa-  
 6 ter and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined-  
 7 channel swales. The channel or bed need not contain water year-round. This definition is not meant to  
 8 include drainage ditches or other artificial water courses unless they are used to convey streams natu-  
 9 rally occurring where natural streams existed prior to human alteration, and/or the waterway is used by  
 10 anadromous or other resident salmonid or other fish populations, or flows directly into shellfish habitat  
 11 conservation areas. ~~(See also “drainage ditch” definition.)~~

12 “Structure” means a permanent or temporary building or edifice of any kind, or any piece of work artifi-  
 13 cially built up or composed of parts joined together in some definite manner whether installed on,  
 14 above, or below the surface of the ground or water, except for vessels.

15 “Survey” means one of the following:

- 16 a. Mapping using a compass and tape, or
- 17 b. Mapping using a smart phone or hand held GPS, or
- 18 c. A survey completed by a licensed Surveyor.

19 “Swale” means a shallow drainage conveyance with relatively gentle side slopes, generally with flow  
 20 depths less than one foot.

21 “Technical administrator” means the director of the planning and development services department or  
 22 staff member designated by the director to perform the review functions required in this chapter.

23 “Toe” means the lowest part of a slope or cliff; the downslope end of an alluvial fan, landslide, etc.

24 “Top” means the top of a slope; or in this chapter it may be used as the highest point of contact above a  
 25 landslide hazard area.

26 “Unavoidable” means adverse impacts that remain after all appropriate avoidance and minimization  
 27 measures have been implemented.

28 “Utilities” means all lines and facilities used to distribute, collect, transmit, or control electrical power,  
 29 natural gas, petroleum products, information (telecommunications), water, and sewage.

30 “Volcanic hazard areas” means geologically hazardous areas that are subject to pyroclastic flows, lava  
 31 flows, debris avalanche, or inundation by debris flows, mudflows, or related flooding resulting from vol-  
 32 canic activity.

33 “Waters of the state” or “state waters” means all salt and freshwaters waterward of the ordinary high  
 34 water line and within the territorial boundary of the state.

Commented [CES225]: From WAC 220-660-030.

35 “Watershed” means a geographic region within which water drains into a particular river, stream or  
 36 body of water. There are approximately 122 watersheds (e.g., Bertrand, Ten Mile, Dakota, Canyon  
 37 Creek, Lake Whatcom, Lake Samish) identified in WRIA 1 and 3. These are nested within approximately  
 38 14 sub-basins (e.g., North Fork Nooksack, Drayton Harbor, Sumas River, Friday Creek), which are nested  
 39 within four basins (e.g., Nooksack River, Fraser River, Samish River, coastal).

40 “Watershed improvement district” means a special district established pursuant to Chapter 85.38 RCW  
 41 citation.

1 “Wellhead protection area” means the area (surface and subsurface) managed to protect ground- wa-  
2 ter-based public water supplies.

3 “Wetland” means areas that are inundated or saturated by surface water or groundwater at a frequency  
4 and duration sufficient to support, and that under normal circumstances do support, a prevalence of  
5 vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps,  
6 marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created  
7 from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales,  
8 canals, detention facilities, retention facilities, wastewater treatment facilities, farm ponds, and land-  
9 scape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a  
10 result of the construction of a road, street, or highway. However, wetlands include those artificial wet-  
11 lands intentionally created to mitigate wetland impacts.

12 “Wetland buffer” means a designated area contiguous or adjacent to a wetland that is required for the  
13 continued maintenance, function, and ecological stability of the wetland.

14 “Wetland class” means the general appearance of the wetland based on the dominant vegetative life  
15 form or the physiography and composition of the substrate. The uppermost layer of vegetation that  
16 possesses an aerial coverage of 30% ~~percent~~ or greater of the wetland constitutes a wetland class. Mul-  
17 tiple classes can exist in a single wetland. Types of wetland classes include forest, scrub/shrub, emer-  
18 gent, and open water.

19 “Wetland delineation” means the precise determination of wetland boundaries in the field according to  
20 the application of specific methodology as described in the ~~1997 Washington State Wetland Delineation~~  
21 ~~Manual or 1987 Edition, as amended~~, Corps of Engineers Wetlands Delineation Manual, ~~1987 Edition,~~  
22 ~~and the Western Mountains, Valleys, and Coast Region supplement (Version 2.0) 2010 or as revised~~ and  
23 the mapping thereof.

24 “Wetland edge” means the boundary of a wetland as delineated based on the definitions contained in  
25 this chapter.

26 “Wetland Enhancement.” See “mitigation.”

27 “Wetland mitigation bank” means a site where wetlands and buffers are restored, created, enhanced or,  
28 in exceptional circumstances, preserved expressly for the purpose of providing compensatory mitigation  
29 in advance of authorized impacts to similar resources.

30 “Wetland Restoration.” See “mitigation” and “reestablishment.”

31 “Wet meadow” means palustrine emergent wetlands, typically having disturbed soils, vegetation, or  
32 hydrology.

33 “Wet season” means the period generally between November 1st and March 30st of most years when  
34 soils are wet and prone to instability. The specific beginning and end of the wet season can vary from  
35 year to year depending on weather conditions.

36 “Windthrow” means a natural process by which trees are uprooted or sustain severe trunk damage by  
37 the wind.

38 “Wood waste” means solid waste consisting of wood pieces or particles generated as a byproduct or  
39 waste from the manufacturing of wood products, handling and storage of raw materials and trees and  
40 stumps. This includes, but is not limited to, sawdust, chips, shavings, bark, pulp, hog fuel, and log sort  
41 yard waste, but does not include wood pieces or particles containing chemical preservatives such as  
42 creosote, pentachlorophenol, or copper-chrome-arsenate.

1

1 **Table 5. Table of Acronyms used in this chapter.**

AASHTO	American Association of State Highway and Transportation Officials	NRCS	Natural Resource Conservation Service
AFO	Animal feeding operation	OBL	Obligate
AHZ	Avulsion hazard zone	OSS	On-site sewage disposal system
CAFO	Concentrated animal feeding operations	PBSPD	Portage Bay Shellfish Protection District
CFR	Code of Federal Regulations	PCE	Perchloroethylene
CMZ	Channel migration zone	PHS	Priority habitat and species
CPAL	Conservation program on agriculture lands	PUD	Planned unit development
DHSPD	Drayton Harbor shellfish protection district	RCT	Recreational, commercial or tribal importance
DOH	Washington State Department of Health	RCW	Revised Code of Washington
EHA	Erosion hazard area	SC	State candidate
ESU	Ecologically significant unit	SE	State endangered
FAC	Facultative	SEPA	State Environmental Policy Act
FACW	Facultative – Wet	SM	State monitor
FIMA	Federal Insurance and Mitigation Administration	SMA	Shoreline Management Act
FIRM	Flood Insurance Rate Maps	SMP	Shoreline Management Program
FCO	Federal species of concern	SS	State sensitive
FE	Federal endangered	ST	State threatened
FT	Federal threatened	TMDL	Total maximum daily load
HGM	Hydrogeomorphic	U	Unstable
HMP	Habitat management plan	UOS	Unstable old slides
HMZ	Historical migration zone	URS	Unstable recent slides
HPA	Hydraulic project approval	USC	United States Code
IBC	International Building Code	USDA	United States Department of Agriculture
LWD	Large woody debris	USEPA	United States Environmental Protection Agency
MBRT	Mitigation Bank Review Team	VA	Vulnerable aggregations
MTBE	Methyl tertiary butyl ether	WAC	Washington Administrative Code
MRL	Mineral resource lands	WCC	Whatcom County Code
NGPE	Native growth protection easement	WDFW	Washington State Department of Fish and Wildlife
NOAA	National Oceanic and Atmospheric Administration	WRIA	Water resource inventory area

2

**Appendix A: CONSERVATION PROGRAM ON AGRICULTURE LANDS**

**Commented [CES226]:** Combined with 16.16.290 to create a new Article 9. Furthermore, codes shouldn't contain appendices.

**Purpose Statement**

The well-being of farms and ranches in Whatcom County depends in part on good quality soil, water, air, and other natural resources. Agricultural operations that incorporate protection of the environment, including critical areas as defined by this chapter, are essential to achieving this goal.

**Overview**

A conservation farm plan identifies the farming or ranching activities and the practice(s) necessary to avoid their potential negative impacts (resource concerns). Practice selection depends upon the types of livestock raised and crops grown. Based upon the type and intensity of the operation, some generalizations can be made as to the resource concerns and remedies that apply.

Some operations present relatively low risks to critical areas because of their benign nature, timing, frequency, or location. For these operations, the resource concerns and remedies are relatively easy to identify and implement. These are described in more detail as low impact agricultural operations subject to standardized conservation farm plans in Section 1 below.

Where the potential negative impacts to critical areas are moderate or high, solutions are more difficult to formulate and implement. In those circumstances, a more rigorous planning process is required. In such cases, a formal written plan shall provide the desired environmental protection. These types of operations are described as agricultural operations requiring custom conservation farm plans in Section 2 below.

Conservation farm plans prepared pursuant to Section 1 or 2 shall include all reasonable measures to maintain existing critical area functions and values.

**Section 1. Low Impact Agricultural Operations Subject to Standardized Conservation Farm Plans**

These operations present a low potential risk to critical area degradation including ground/ surface water contamination because the animals kept generate fewer nutrients than can be used by the crops grown there.

**Criteria.** To qualify as a low impact operation, a farm shall not exceed one animal unit per one acre of grazable pasture. One resource for guidance is *Tips on Land and Water Management for Small Farm and Livestock Owners in Western Washington*. It can be obtained at: [http://www.kingcd.org/pub\\_sma.htm](http://www.kingcd.org/pub_sma.htm) or from the Whatcom Conservation District. Other guidance may also be used, provided it is consistent with the best available science criteria in WAC ~~365-195-900~~ through ~~365-195-925~~.

**Benchmark System and Resource Concerns.** Keeping horses and other large animals creates potential adverse impacts to critical areas.

**Nutrient Pollution of Water.** Animal waste contains nutrients (nitrogen and phosphorous). With each rain, these wastes can wash off the land and into the nearest stream, lake, or wetland. In surface water, phosphorous and nitrogen fertilize aquatic plants and weeds. As the plants and weeds proliferate and decay, the dissolved oxygen that fish need to survive is depleted. Nitrogen in the form of nitrate is easily dissolved in and carried with rainfall through our permeable soils to groundwater. Nitrate concentrations exceeding the maximum contaminate level for safe drinking water are found in many wells of Whatcom County. These can present a significant human health risk, particularly to the very old and young.

1 Pathogen Pollution of Water. Manure contains bacteria and other pathogens. These can make the water  
2 unfit for drinking without treatment or shellfish unfit for human consumption. They can also make water  
3 unsafe for human contact and recreational sports such as fishing, swimming or water skiing. Both sur-  
4 face and groundwater are vulnerable to this type of pollution.

5 Sediment Pollution to Surface Water. Regardless of the amount of supplemental feed provided, large  
6 animals will continue grazing until all palatable vegetation is gone. On especially small lots (one or two  
7 acres), the animals that are allowed free and continuous access to vegetation quickly graze out and  
8 trample pasture grasses and forbs. These areas are then susceptible to invasion by weeds, including nox-  
9 ious weeds, and brush. The resulting bare ground is subject to erosion from wind and water. Lands that  
10 lack adequate vegetation are subject to erosion, and contaminated runoff from these areas can enter  
11 water bodies and wetlands and interfere with fish and wildlife habitat.

12 Degradation of Riparian Areas. The term "riparian" is defined in Article 8 of this chapter and includes the  
13 areas adjacent to streams, lakes, marine shorelines and other waters. A healthy riparian area is essential  
14 to protecting fish and wildlife, including salmon and shellfish. Dense riparian vegetation along the wa-  
15 ter's edge will slow and protect against flood flows; secure food and cover for fish, birds and wildlife;  
16 and keep water cooler in summer. Uncontrolled grazing removes important riparian vegetation.

17 Standard Conservation Farm Plan Requirements. Owners of low impact livestock operations have lim-  
18 ited options to control animal waste because their operations are small. The required conservation farm  
19 plan can be prepared by the landowner and include a simple map of the property, a standard checklist  
20 designed to protect water quality, and the following additional components:

21 System Siting and Design. Barns, corrals, paddocks or lots are to be sited to avoid runoff directly into  
22 critical areas. Where structures exist and cannot be relocated, corrective measures must be taken to  
23 avoid runoff of pollutants and bacteria to critical areas. Where trees and shrubs are absent along a  
24 stream, lake, pond or wetland, a strip or area of herbaceous vegetation shall be established and main-  
25 tained between barns, corrals, paddocks, and grazing areas pursuant to the National NRCS Conservation  
26 Practice 393, "Filter Strip." Livestock shall be excluded from the filter strips established to protect critical  
27 areas pursuant to NRCS Practice 472, "Livestock Exclusion." Where trees and shrubs exist along a  
28 stream, lake, pond, or wetland, they shall be retained and managed to preserve the existing functions of  
29 the buffer pursuant to the NRCS Conservation Practice 391, "Riparian Forest Buffer."

30 Manure Collection, Storage, and Use. Manure and soiled bedding from stalls and paddocks are to be  
31 removed and are to be placed in a storage facility protected from rainfall so that runoff does not carry  
32 pollutants and bacteria to critical areas. Manure is to be used as cropland fertilizer. The rate of manure  
33 application shall not exceed crop requirements. It is to be applied in a manner to avoid runoff of nutri-  
34 ents and bacteria to critical areas.

35 Pasture Management. Pastures are to be established and managed pursuant to "Prescribed Grazing"  
36 (NRCS Practice 528A).

37 Exercise or Barn Lots. These normally bare areas must be stabilized and managed to prevent erosion and  
38 sediment movement to critical areas. A diversion terrace shall be installed, where necessary, to hinder  
39 flow to and across the lot or paddock. Runoff from the lot must be treated via the filter strip or riparian  
40 buffer as described in subsection (3)(a) of this section to avoid contaminants reaching critical areas.

41 Existing native vegetation within critical area buffers shall be retained to the extent practicable.

42 Section 2. Agricultural Operations Requiring Custom Conservation Farm Plans

1 These operations present a potential moderate or high risk to critical area degradation including ground  
2 or surface water contamination because the nutrients applied from manure or commercial fertilizers  
3 may exceed that which can be easily used by the crops grown there without careful planning and man-  
4 agement. The agricultural activities are also likely to be much more intense than low-impact operations  
5 posing greater potential risks to other critical areas.

6 **Moderate Impact Operations.** Examples include farms that exceed one animal unit per one acre of gra-  
7 zable pasture; orchards, vineyards, small fruit field and row crops; and drainage improvement districts.

8 **High Impact Operations.** Examples include dairies and animal feeding operations/concentrated animal  
9 feeding operations (AFO/CAFOs). These operations are already highly regulated by state and federal  
10 governments (see Chapter 90.64 RCW et seq.; 40 CFR 122.23 and 40 CFR Part 412).

11 **Custom Conservation Farm Plan Requirements.**

12 **Moderate Impact Operations.** Where potential significant impacts to critical areas are identified through  
13 a risk assessment, then plans shall be prepared to mitigate same by:

14 A planning advisor; or

15 Through the USDA Natural Resources Conservation Service; or

16 The Whatcom conservation district; or

17 An eligible farmer or rancher, who participates in this program by:

18 Attending a County sponsored or approved workshop, and

19 Conducting a risk assessment of their farm or ranch, alone or with a planning advisor's assistance, and

20 Developing a plan to mitigate any identified risks, and

21 Having the plan approved pursuant to WCC 16.16.290.

22 **High Impact Operations.** Conservation farm plans meeting the criteria of these state and federal laws  
23 fulfill the requirements of this chapter. (See USEPA Final Guidance – Managing Manure Guidance for  
24 Concentrated Animal Feeding Operations (CAFOs) at: <http://epa.gov/guide/cafo/>)

25 **Plan Standards.** In developing the elements that an approved conservation farm plan must contain, the  
26 technical administrator may authorize the use of methods and technologies other than those developed  
27 by the Natural Resources Conservation Service when such alternatives have been developed by:

28 A land grant college; or

29 A professional engineer with expertise in the area of conservation farm planning.

30 **Plan Performance.** Implementation of the conservation farm plan must protect existing values and func-  
31 tions of critical areas. Benchmark conditions are to be captured and described in the plan. This may con-  
32 sist of photo documentation, written reports or both.

33 **Treatment of Wetlands.** Wetlands shall be conserved pursuant to the provisions of Title 180—National  
34 Food Security Act Manual (see <http://www.nrcs.usda.gov/programs/wetlands/index.html>).

35 **Custom conservation farm plans** need not address the application, mixing and/or loading of insecticides,  
36 fungicides, rodenticides and pesticides; provided, that such activities are carried out in accordance with  
37 the Washington State Department of Agriculture and all other applicable regulations including, but not  
38 limited to: the provisions of Chapter 90.48 RCW, the Clean Water Act, United States Code (USC) Section

- 1 ~~136 et seq. (Federal Insecticide, Fungicide, and Rodenticide Act), Chapter 15.58 RCW (Pesticide Control~~
- 2 ~~Act), and Chapter 17.21 RCW (Pesticide Application Act).~~

**Appendix B: NOTIFICATION EXAMPLE**

**Commented [CAC227]:** Forms shouldn't be in code, as they generally need to change over time. Best to authorize the dept. to develop a form. Furthermore, codes shouldn't contain appendices.

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Date \_\_\_\_\_

**Whatcom County Planning and Development Services**

Land Use Division Northwest Annex, Suite B

5280 Northwest Drive

Bellingham, WA 98226-9097

~~Notice of work to be performed in or near a critical area — In compliance of WCC 16.16.235. This notification should be submitted to the Whatcom County planning and development services department at least 10 working days before start.~~

Contractor \_\_\_\_\_ Land owner \_\_\_\_\_ Other \_\_\_\_\_ Type of utility \_\_\_\_\_

Contact name \_\_\_\_\_ Phone \_\_\_\_\_

Address \_\_\_\_\_ Cell \_\_\_\_\_

Name of property owner \_\_\_\_\_ Phone \_\_\_\_\_

Property address and/or tax parcel number \_\_\_\_\_

Proposed start date \_\_\_\_\_ Proposed finish date \_\_\_\_\_

Type of affected critical area \_\_\_\_\_

~~List equipment, specific work and/or activity to be conducted (if more space is needed attach additional information sheets)~~

\_\_\_\_\_

\_\_\_\_\_

~~I/we understand this work and/or activity may have adverse effects on the critical area, and acknowledge that special care must be taken to reduce or eliminate adverse effects. Disturbed critical areas shall be restored as near as possible to the previous condition.~~

Description of restoration \_\_\_\_\_

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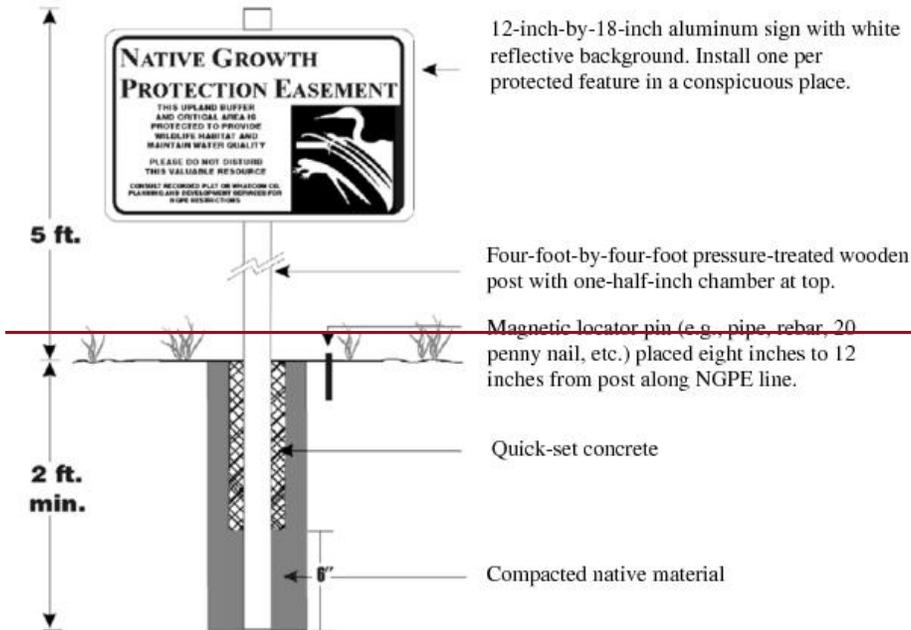
~~I/we the undersigned acknowledge and accept the responsibility for the progress and completion of this project. Any unforeseen problems or plan changes will immediately be brought to the attention of the County Technical Administrator.~~

Signed \_\_\_\_\_ Date \_\_\_\_\_ Signed \_\_\_\_\_ Date \_\_\_\_\_

**Appendix C: NATIVE GROWTH PROTECTION EASEMENT SIGN INSTALLATION GUIDELINES**

**Commented [CAC228]:** Such standards shouldn't be in code, as they generally need to change over time. Best to authorize the dept. to develop a form. Furthermore, codes shouldn't contain appendices.

**TYPE 1 SIGN**



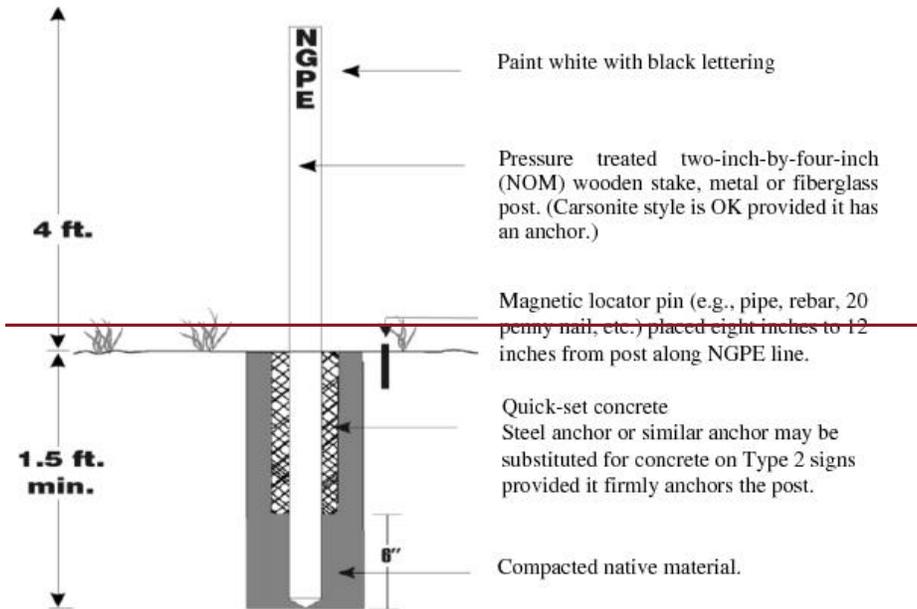
**NOTES:**

NGPE signs shall be placed no greater than 200 feet apart around the perimeter of the NGPE. Minimum placement shall include one Type 1 sign per wetland, and at least one Type 1 sign shall be placed in any lot that borders the NGPE unless otherwise approved by the technical administrator.

Sign placement shall be subject to the approval of Whatcom County. Alternative sign designs may be submitted to Whatcom County for approval.

All signs must be secure and permanent. Type 2 signs may be used in conjunction with Type 1 signs at the discretion of the Whatcom County technical administrator.

**TYPE 2 SIGN**



- 1
- 2 **NOTES:**
- 3 ~~NGPE signs shall be placed no greater than 200 feet apart around the perimeter of the native growth~~
- 4 ~~protection easement. Minimum placement shall include one Type 1 sign per wetland, and at least one~~
- 5 ~~Type 1 sign shall be placed in any lot that borders the native growth protection easement unless other~~
- 6 ~~wise approved by the County critical areas specialist.~~
- 7 ~~Sign placement shall be subject to the approval of Whatcom County. Alternative sign designs may be~~
- 8 ~~submitted to Whatcom County for approval.~~

**Appendix D: SPECIAL STATUS FISH AND WILDLIFE SPECIES PROTECTED  
PURSUANT TO ARTICLE 7 OF THIS CHAPTER**

**Commented [CAC229]:** State and federal lists adopted by reference in the code now, since they change over time. Furthermore, codes shouldn't contain appendices.

**Table D-1. Listed, Sensitive, and Candidate Species Known or Suspected to Occur in Whatcom County. For special status fish, please see Table D-3.**

Species	Status <sup>1</sup>	Habitat Requirements and Distribution
Bald eagle	FT, ST	Numerous nest territories and foraging areas in major drainages and along marine shorelines of western Washington. <sup>2a</sup>
Brandt's cormorant	none, SC	Winter resident seabird of inland marine waters. Breeds on outer coast. <sup>2b</sup>
Brown pelican	FE, SE	Occasional summer sighting in marine waters. <sup>2b</sup>
Cascades frog	FCO, SM	Wetlands and small streams in between 2,000 feet and 6,200 feet elevation in Washington and Oregon. Whatcom County population is disjunct from populations to south. <sup>2c</sup>
Columbia spotted frog	FCO, SC	Aquatic habitat, especially emergent vegetation in wetlands, ponds, and streams in the Cascade Mountains and in eastern Washington. <sup>2o</sup>
Common loon	none, SS	Nests on secluded shorelines of lakes larger than 30 acres; winters on lakes and marine waters. <sup>2a</sup> Known to occur at Lummi Bay and Lummi Flats.
Common murre	none, SC	Winter resident seabird of inland marine waters. Breeds on outer coast. <sup>2p</sup>
Fisher	FCO, SE	Very rare forest carnivore closely associated with late successional coniferous and mixed forests of Olympic and North Cascade Mountains. <sup>2a</sup>
Golden eagle	none, SC	Uncommon western Washington raptor associated with open country. Nests on cliffs or large trees. <sup>2a</sup>
Gray whale	none, SS	Migratory marine mammal found in coastal waters in spring and summer. Often forages on or near bottom, ingesting sediment. <sup>2e</sup>
Gray wolf	FT, SE	Rare carnivore of forested and open habitat requiring adequate ungulate prey. Occasional recent records from North Cascades National Park. <sup>2h</sup>
Grizzly bear	FT, SE	Rare omnivore of wilderness areas. Occasional recent records from North Cascades National Park. <sup>2h</sup>
Killer whale (orca)	none, SE	Resident marine mammal of coastal waters, including Strait of Georgia. Salmon principal prey in Puget Sound. <sup>2b</sup>
Marbled murrelet	FT, ST	Uncommon seabird that nests in late successional conifer forests within 50 miles of marine shoreline. Winters in nearshore marine waters. <sup>2a</sup>
Northern abalone	none, SC	Shellfish found in subtidal rock reefs, low abundance, harvest closed. <sup>2h</sup>
Northern goshawk	FCO, SC	Raptor that nests in relatively dense mature conifer and mixed forests. Sensitive to clear cut timber harvest in nest and foraging stands. <sup>2e</sup>

Species	Status <sup>1</sup>	Habitat Requirements and Distribution
Northern spotted owl	FT, SE	Resident in coniferous forests below 5,000 feet elevation. Closely associated with late-successional forests. <sup>2j</sup>
Olympia oyster	none, SC	Shellfish found in intertidal gravel, locally extirpated in Whatcom County, restoration effort in progress. <sup>2n</sup>
<del>Oregon Spotted frog (Rana pretiosa)</del>	<del>FT</del>	<del>X</del>
Pacific harbor porpoise	none, SC	Relatively shy marine mammal of inland marine waters. <sup>2b</sup>
Peregrine falcon	FCO, SS	Year-round resident; nests in cliffs (> 150 feet in height); and feeds on birds, especially shorebirds and waterfowl. <sup>2e</sup> Occurrences at Nooksack Delta and Portage Bay.
Pileated woodpecker	none, SC	Large resident woodpecker of mature forests requiring trees > 17 inch diameter for nesting and roosting. Important primary excavator providing cavities for a number of species. <sup>2a</sup>
Purple martin	none, SC	A migratory, cavity-nesting songbird that nests over or near water. Will use artificial nest boxes. <sup>2e</sup>
Red legged frog	FCO, none	Found from sea level to 2,800 feet elevation in western Washington. Breeds in freshwater wetlands and slow-moving streams. <sup>2e</sup>
Sandhill crane	none, SE	Nests and roosts in relatively open, large wet meadows and emergent wetlands. Highly wary and sensitive to disturbance. Will forage in upland meadows, pastures, and agricultural fields. Seen in Washington primarily during migration; a few nesting pairs in eastern Washington. <sup>2e</sup>
Steller (Northern) sea lion	FT, ST	A sea lion that breeds in the northern Pacific and winters as far south as California. Seen on Washington's inland waters occasionally in winter. <sup>2e, 2k</sup>
Tailed frog	FCO, SM	Stream-dwelling frog of cold, rock-substrate streams up to 5,250 feet elevation. <sup>2c</sup>
Townsend's big-eared bat	FCO, SC	A year-round resident that inhabits caves and abandoned mines and buildings. Extremely sensitive to human disturbance. <sup>2i</sup> Recent records from Chuckanut Mountain. <sup>2i</sup>
Vaux's swift	none, SC	A summer resident and breeder of western Washington closely associated with late-successional conifer forests. Requires hollow, large-diameter snags for nesting and roosting. <sup>2e</sup>
Western grebe	none, SC	A winter resident on inland waters, especially Samish and Bellingham Bays. <sup>2b</sup>
Western pond turtle	FCO, SE	Occurs in streams, ponds, lakes, and permanent and ephemeral wetlands. In Washington, pond turtles use wetlands that have open uplands and overwinter in mud bottoms of lakes or ponds or in upland habitats adjacent to water bodies. <sup>2d</sup>

Species	Status <sup>1</sup>	Habitat Requirements and Distribution
Western toad	FCO, SC	Found near emergent wetlands and small lakes from zero to 6,530 feet elevation. <sup>2e</sup>
Willow flycatcher	FCO, none	A neotropical migrant that breeds in forested or shrub riparian habitat or forests. <sup>2f</sup>
Wolverine	FCO, SC	A wide-ranging scavenger that requires large tracts of remote boreal or montane habitat. Rare in Washington, but recent Whatcom County records. <sup>2m</sup>

- 1 <sup>1</sup>— FE = federal endangered; FT = federal threatened; FCO = federal species of concern; SE = state endangered; ST = state threatened; SC = state candidate; SS = state sensitive; SM = state monitor (WDFW  
 2 2004a).  
 3  
 4 <sup>2</sup>— Sources: <sup>a</sup> Rodrick and Milner 1991; <sup>b</sup> Angell and Balcomb 1982; <sup>c</sup> Leonard et al. 1993; <sup>d</sup> Hays et al.  
 5 1999; <sup>e</sup> Larsen et al. 2004; <sup>f</sup> PacificBio 2004; <sup>g</sup> Smith et al. 1997; <sup>h</sup> National Park Service 2004; <sup>i</sup> NPWRC  
 6 2004; <sup>j</sup> King County 2003; <sup>k</sup> AMFSC 2004; <sup>l</sup> WCPDS 2004; <sup>m</sup> Banci 1994; <sup>n</sup> Penttila 2004; <sup>o</sup> Nordstrom and  
 7 Milner 1997; <sup>p</sup> Cassidy 2003.  
 8 **Table D-2. Priority Species Known or Suspected to Occur in Whatcom County.** <sup>1</sup> For Priority Fish see  
 9 **Table D-3.**

Species/Sites	Criteria <sup>2</sup>
Band-tailed pigeon — breeding areas, regular concentrations, occupied mineral springs	RCT
Bats — roosting concentrations of big brown bat, Myotis bats, pallid bat	VA
Blue grouse — breeding areas, regular concentrations	RCT
Brant — regular large concentrations	VA, RCT
California sea lion — haulout areas	VA
Cavity nesting ducks (wood duck, Barrow's goldeneye, common goldeneye, bufflehead, hooded-merganser) — breeding areas	RCT
Columbian black-tailed deer — regular large concentrations migration corridors	RCT
Cormorants and alcids — breeding concentrations	VA
Dall's porpoise — regular concentrations	VA
Dungeness crab — breeding areas, regular concentrations	VA, RCT
Geoduck — regular concentrations	VA, RCT
Great blue heron — breeding areas	VA
Harbor seal — haulout areas	VA
Harlequin duck — breeding areas, regular marine concentrations	VA, RCT
Manila clam — regular concentrations	VA, RCT
Marten — regular occurrences	RCT
Mink — regular occurrences	RCT

Species/Sites	Criteria <sup>2</sup>
Moose — regular concentrations	RCT
Mountain goat — breeding areas, regular concentrations	RCT
Native littleneck clam	VA, RCT
Nonbreeding concentrations of Barrow’s goldeneye, common goldeneye, bufflehead	VA, RCT
Nonbreeding concentrations of loons, grebes, cormorants, alcids	VA
Nonbreeding concentrations of plovers, sandpipers, phalaropes	VA
Pacific oyster — regular concentrations	VA, RCT
Pandalid shrimps — regular concentrations	VA, RCT
Red urchin — regular concentrations	RCT
Roosevelt elk — regular concentrations, calving areas, migration corridors	RCT
Snow geese — regular concentrations	VA, RCT
Trumpeter and tundra swans — regular concentrations	VA, RCT
Waterfowl concentrations (other than Canada geese in urban areas) — significant breeding areas and regular large wintering concentrations	VA, RCT

1 <sup>1</sup>— VA = vulnerable aggregations; RCT = recreational, commercial, or tribal importance vulnerable to  
 2 habitat loss or degradation (WDFW 1999b).

3 <sup>2</sup>— Sources: Penttala 2004; Leonard et al. 1993; <sup>3</sup>Larsen et al. 2004; <sup>4</sup>PacificBio 2004; <sup>5</sup>Smith et al. 1997;  
 4 <sup>6</sup>National Park Service 2004; <sup>7</sup>NPWRC 2004; <sup>8</sup>King County 2003; <sup>9</sup>AMFSC 2004; <sup>10</sup>WCPDS 2004; <sup>11</sup>Banci  
 5 1994; <sup>12</sup>Penttala 2004.

6 **Table D-3. Habitat Associations and Distribution of Priority and Listed Fish Species in Whatcom County**  
 7 **(Primary sources: Smith 2002, WDFW et al. 1994, WDFW 1998, WDFW 2000, Bargmann 1998, Close et**  
 8 **al. 1995, Anchor 2003)**

Species	Federal and State Status <sup>1</sup>	General Location/Distribution
Chinook salmon (Puget Sound ESU) <i>Oncorhynchus tshawytscha</i>	FT, SC, Priority Species	<i>Habitat:</i> Juveniles and adults require cold, well-oxygenated water. Spawning generally occurs in riffle areas with clean gravel and cobble substrates. Juveniles use pool habitat and in-stream cover such as LWD, spaces among cobbles, and undercut banks as resting areas and/or for refuge from predators. Cobble substrate and off-channel habitats such as secondary channels, backwaters, or ponds provide important refuge from flows for overwintering juveniles. After river entry, adults on spawning migration use resting pools, which provide refuge from river currents and high water temperatures that are often encountered in the summer and early autumn. Nearshore marine areas are important for feeding and refuge for juveniles after entering the ocean.  <i>Distribution:</i> Whatcom County supports both fall and spring Chinook salmon stocks. Late-run (fall) Chinook spawn in portions of the main-

Species	Federal and State Status <sup>1</sup>	General Location/Distribution
		<p>stem, North Fork, Middle Fork, and South Fork Nooksack Rivers, and in tributaries that include Anderson, Bertrand, Fishtrap, Hutchinson, Smith, and Ten Mile Creeks. Fall Chinook salmon have also been documented in the Sumas River, and in Dakota, Squalicum, and Whatcom Creeks. Two spring Chinook runs are found in Whatcom County. One stock primarily spawns in the North Fork Nooksack between RM 45 and RM 64 and in the lower Middle Fork Nooksack to a lesser extent. The other spring Chinook stock spawns in the South Fork Nooksack River and some larger tributaries such as Hutchinson, Skookum, Deer, and Plumbago Creeks.</p> <p><i>When habitats are occupied:</i> Spring Chinook adults migrate and are in streams from February to October and spawn from July to October. Fall Chinook adults migrate and are in streams from June to November and spawn from September to December. Juveniles of both stocks can be found rearing in streams year-round.</p>
Coho salmon <i>Oncorhynchus kisutch</i>	Priority Species	<p><i>Habitat:</i> Similar general habitat associations as Chinook salmon (see above). Juveniles use pool habitat and in-stream cover such as LWD, spaces among cobbles, and undercut banks as resting areas and/or refuge. Juvenile Coho salmon overwinter in freshwater, so overwinter habitat such as deep pools and off-channel habitats are of particular importance for survival, especially in coastal streams subject to high fall and winter flows.</p> <p><i>Distribution:</i> Coho salmon occur throughout all three forks of the Nooksack watershed and associated tributaries, and in many smaller independent drainages including California, Chuckanut, Colony, Dakota, Oyster, Padden, Silver, Squalicum, Terrell, and Whatcom Creeks.</p> <p><i>When habitats are occupied:</i> Coho salmon adults migrate and are in streams from July to as late as February, and spawn from October to as late as February. Juveniles can be found rearing in streams year-round.</p>
Chum salmon <i>Oncorhynchus keta</i>	Priority Species	<p><i>Habitat:</i> Chum salmon rear in freshwater for only a few days to weeks before migrating downstream to saltwater, therefore juveniles have limited habitat needs in freshwater. Migrating spawning adults require cold, well-oxygenated water, resting pools, and clean gravel spawning substrate. Chum salmon also often spawn in shallower, slower running streams and side channels in low gradient lower reaches of rivers.</p> <p><i>Distribution:</i> Two stocks of chum salmon occur in the Nooksack River Basin. One spawns in the South Fork and mainstem Nooksack Rivers and tributaries, while the other spawns in the North Fork Nooksack River and below the diversion dam on the Middle Fork Nooksack River. Other populations are found in smaller independent watersheds such as the Chilliwack, Lummi, and Sumas Rivers, and in Chuckanut, Colony, Oyster, Padden, Squalicum, and Whatcom Creeks.</p>

Species	Federal and State Status <sup>1</sup>	General Location/Distribution
		<i>When habitats are occupied:</i> Chum salmon adults migrate and are in streams from August to February, and spawn from October to February. Fry can be found in streams from February to July, but fry migrate seaward shortly after hatching and there is no juvenile rearing in freshwater.
Pink salmon <i>Oncorhynchus gorbuscha</i>	Priority Species	<p><i>Habitat:</i> Similar early life history and freshwater habitat requirements as for chum salmon (see above).</p> <p><i>Distribution:</i> Two stocks of odd-year pink salmon identified in the Nooksack basin as well as small numbers of even-year pink salmon. One stock is found in the mainstem and tributaries of the Middle Fork (up to the diversion dam) and the North Fork up to Nooksack Falls (RM 65). The other stock is found in the South Fork Nooksack and spawn up to RM 25, and also in some tributaries including Deer, Cavanaugh, Hutchinson, Plumbago, and Skookum Creeks.</p> <p><i>When habitats are occupied:</i> Pink salmon adults migrate and are in streams from June to October, and spawn from August to October. Fry can be found in streams from December to June, but fry migrate seaward shortly after hatching and there is no juvenile rearing in freshwater.</p>
Sockeye salmon/ Kokanee <i>Oncorhynchus nerka</i>	Priority Species	<p><i>Habitat:</i> Similar general in-stream habitat requirements for migration and spawning as other salmonid species. Sockeye salmon are unique in that juveniles rear in freshwater lakes for up to a year prior to migrating to the ocean. Kokanee rear and reproduce in freshwater lakes.</p> <p><i>Distribution:</i> Small numbers of sockeye salmon have been documented in the North and South Fork Nooksack Rivers and occasionally recorded in the lower reaches of the Middle Fork. A native population of kokanee reproduces in the Lake Whatcom watershed. A hatchery at the south end of the lake produces native kokanee brood stock for lakes around the world.</p> <p><i>When habitats are occupied:</i> Sockeye salmon adults migrate and are in streams from April to November, and spawn from August to November. Fry and juvenile rearing occurs year-round in freshwater lakes.</p>
Bull trout <i>Salvelinus confluentus</i>	FT, Priority Species	<p><i>Habitat:</i> Similar general in-stream habitat requirements as other salmonids except that bull trout require much colder water temperatures than other salmonid species, and require relatively pristine habitats. Migratory forms of bull trout inhabit lower river reaches and nearshore marine habitats for migration, rearing, and feeding.</p> <p><i>Distribution:</i> Because bull trout require very cold water temperatures for certain life history stages, the distribution of bull trout is generally restricted to upper reaches of sub-basins. Bull trout have been found in the North Fork sub-basin up to RM 65, and in Boulder, Canyon, Cornell, Glacier, Kenney, Racehorse, Thompson, and Wells Creeks. In the Middle Fork</p>

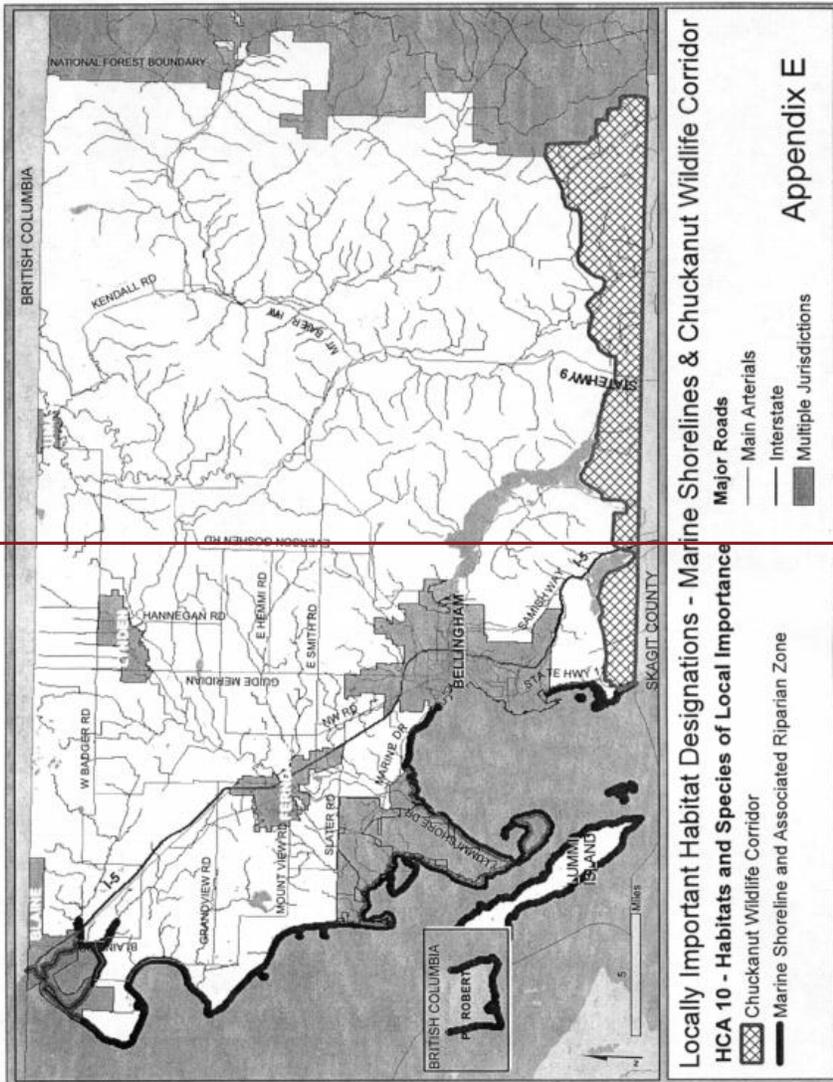
Species	Federal and State Status <sup>1</sup>	General Location/Distribution
		<p>Nooksack River, bull trout are found upstream of the diversion dam, and are either present or presumed to be present in Canyon Lake, Clearwater, Green, Rankin, Ridley, Sisters, and Warm Creeks. In the South Fork Nooksack sub-basin, bull trout are known to spawn in the mainstem of the South Fork and in Bells, Howard, and Wanlick Creeks. Bull trout/dolly varden are also known to spawn in the Chilliwack River system outside of the Nooksack system. However, because portions of bull trout populations have an anadromous life history strategy and may migrate upstream and downstream for foraging, spawning, and dispersal, all tributaries of the Nooksack and Fraser River watersheds are considered potentially inhabited by bull trout unless data indicates that water quality (primarily water temperature) is impaired to an extent that resident or migratory life stages of bull trout cannot be supported. In general though, the larger lower reaches of main tributaries and the mainstem Nooksack River are primarily used as migratory corridors for bull trout.</p> <p><i>When habitats are occupied:</i> Though portions of some populations are anadromous, this behavior is not obligatory and bull trout adults and juveniles may occur in freshwater year round.</p>
<p>Rainbow trout/steelhead <i>Oncorhynchus mykiss</i></p>	<p>SC, Priority Species</p>	<p><i>Habitat:</i> Similar general in-stream habitat requirements as other salmonids. Steelhead have an extended freshwater juvenile phase as with Chinook and Coho salmon, but also require habitat for feeding and resting during an extended adult freshwater phase.</p> <p><i>Distribution:</i> Three winter run and one summer run stock are found in Whatcom County. These stocks include the mainstem/North Fork stock, the Middle Fork stock, and the South Fork stock. A summer run stock spawns in the upper South Fork Nooksack River. Winter steelhead also occur in Chuckanut, Dakota, Padden, Squalicum, Terrell, and Whatcom Creeks, and in the Sumas River. In addition, native resident rainbow trout are found in the upper North Fork and Middle Fork Nooksack River sub-basins as well as some South Fork Nooksack tributaries.</p> <p><i>When habitats are occupied:</i> Resident rainbow trout are found in freshwaters year round. Summer steelhead adults are potentially found in streams year round, but spawning occurs from February to April, with surviving adults outmigrating to the ocean shortly thereafter. Winter steelhead are found in streams from October to July, and spawning may occur from December to July. Juveniles of both life history forms rear in freshwaters year round prior to outmigrating to the ocean.</p>
<p>Coastal cutthroat trout <i>Oncorhynchus clarki</i></p>	<p>Priority Species</p>	<p><i>Habitat:</i> Cutthroat trout have similar general requirements as all salmonids and display varying degrees of migratory behavior, often moving out to nearshore marine waters and estuaries to feed in the summer and migrating freshwater streams to overwinter prior to spawning in the spring.</p>

Species	Federal and State Status <sup>1</sup>	General Location/Distribution
		<p><i>Distribution:</i> One stock of coastal cutthroat trout is widely found throughout Whatcom County streams upstream and downstream of most migration barriers.</p> <p><i>When habitats are occupied:</i> The life history of coastal cutthroats is highly variable. Portions of populations are anadromous, but this behavior is not obligatory and coastal cutthroat trout adults and juveniles occur in freshwaters year round.</p>
River lamprey <i>Lampetra ayresi</i>	SC	<p><i>Habitat:</i> River lamprey are anadromous and require clean gravel substrate in streams for spawning and egg incubation. After hatching, lamprey burrow in silt and mud, often in off-channel areas, where they typically remain for a period of years. During this stage, lamprey require relatively stable habitats (Close et al. 1995).</p> <p><i>Distribution:</i> Found in coastal streams from northern California to southeastern Alaska, but little information available regarding the population status of river lamprey in Washington.</p> <p><i>When habitats are occupied:</i> River lamprey migrate up small freshwater streams in the fall and spawn in the winter and spring. However, the ammocoete (juvenile) stage lasts several years, so river lamprey would be expected to occur year round in streams where they are found.</p>
Pacific herring <i>Clupea pallasii</i>	SC	<p><i>Habitat:</i> Most spawning occurs in shallow subtidal zones from zero to 10 feet in tidal elevation. Eggs are deposited on vegetation or other shallow water substrate.</p> <p><i>Distribution:</i> Herring are abundant throughout the northeast Pacific Ocean. Significant spawning concentrations are found in the Cherry Point and Samish-Portage Bay areas. Puget Sound stocks spend their first year in Puget Sound. Some stocks remain entirely in Puget Sound while others migrate to other coastal areas of Washington and southern British Columbia (Bargmann 1998).</p> <p><i>When habitats are occupied:</i> Pacific herring stocks spawn from late January through early April. A notable exception is the Cherry Point stock (the largest in the state), which spawns from early April through early June.</p>
Pacific sand lance <i>Ammodytes hexapterus</i>	Priority Species	<p><i>Habitat:</i> Pacific sand lance deposit their eggs in sand-gravel substrates between the mean high tide line and about plus five ft in tidal elevation. Eggs incubate in beach substrate for about one month before emerging. Larvae are a common component of the nearshore plankton. Incubating sand lance eggs occur in the same substrate with the eggs of surf smelt spawning populations, both species using the same stretches of beach for spawning at the same times of year.</p> <p><i>Distribution:</i> The Pacific sand lance is found from southern California around the north Pacific Ocean. It is common in nearshore marine wa-</p>

Species	Federal and State Status <sup>1</sup>	General Location/Distribution
		<p>ters throughout Washington state. Spawning areas are scattered along nearshore areas in Whatcom County (Bargmann 1998).</p> <p><i>When habitats are occupied:</i> Sand lance inhabit marine near shore areas year round, with spawning in intertidal areas occurring annually from November 1st through about February 15th.</p>
<p>Surf smelt <i>Hypomesus pretiosus</i></p>	<p>Priority Species</p>	<p><i>Habitat:</i> Similar spawning and nearshore habitat requirements as the Pacific sand lance. Surf smelt have an entirely marine/estuarine life history (Bargmann 1998).</p> <p><i>Distribution:</i> The surf smelt occurs from southern California to central Alaska and are widespread in Washington. In Whatcom County, surf smelt are found in similar areas as Pacific sand lance.</p> <p><i>When habitats are occupied:</i> Surf smelt inhabit marine near shore areas year round, and spawning may occur year round.</p>
<p>Longfin smelt <i>Spirinchus thaleichthys</i></p>	<p>Priority Species</p>	<p><i>Habitat:</i> Longfin smelt are anadromous and spawn in freshwater streams. Spawning substrate is sand and gravel similar to that used by surf smelt in nearshore areas.</p> <p><i>Distribution:</i> Spawning populations occur locally throughout western Washington, but the species is poorly understood or studied. Spawning is known to occur in the lower Nooksack River, but actual spawning sites have not been identified (Bargmann 1998).</p> <p><i>When habitats are occupied:</i> The longfin smelt spawning season in the lower reaches of the Nooksack River is thought to only occur from November until as late as April.</p>
<p>Numerous Rockfish species <i>Sebastes</i> spp.</p>	<p>State listed or candidate</p>	<p><i>Habitat, distribution, and when habitats are occupied:</i> Rockfish and other groundfish species can be found in marine nearshore and offshore areas year round. Estuaries often attract early life phases of groundfish species.</p>

1 <sup>1</sup> FT = Federally Threatened, SC = State Candidate, SS = State Sensitive. Note: Candidate species are not  
 2 required to be included in the definition of fish and wildlife habitat conservation areas (WAC ~~366-190-~~  
 3 ~~080~~).

1 **Appendix E: LOCALLY IMPORTANT HABITAT DESIGNATIONS – MARINE**  
2 **SHORELINES AND CHUCKANUT WILDLIFE CORRIDOR**



3