

**CHAPTER XX.36
ENVIRONMENTALLY SENSITIVE AREAS**

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xx.36.010 Purpose

The purpose of this Chapter is to identify and protect environmentally sensitive areas, also known as critical areas, and to supplement the County's development requirements by providing additional land use controls without violating the constitutional rights of property owners.

- A. This Chapter is intended to meet the requirements of:
 - 1. The Washington State Growth Management Act, RCW 36.70A; and
 - 2. The Washington State Shoreline Management Act, RCW 90.58.
- B. In the event of conflicts between this Chapter and the Chapter implementing the County's Shoreline Master Program, the provisions of the updated Shoreline Regulations shall prevail.

xx.36.020 Applicability

All development activities including new uses of land and buildings and changes of use must comply with all provisions of this Chapter and this Title as well as all applicable provisions of local, state, and federal law.

- A. Environmentally sensitive areas, or critical areas, subject to the provisions of this Chapter shall consist of:
 - 1. Wetlands;
 - 2. Geologically Hazardous Areas;
 - 3. Fish and Wildlife Habitat Conservation Areas;

4. Frequently Flooded Areas; and

5. Critical Aquifer Recharge Areas.

B. It is important to note that the shoreline areas within 200' of the ordinary high water mark of many of the rivers, streams, and lakes in the County and their associated wetlands are under the jurisdiction of the Washington State Shoreline Management Act and in addition to the requirements of this Chapter, proposed development activities involving these areas must also comply with the provisions of the Pend Oreille County Shoreline Master Program and the implementing regulations in Chapter xx.34.

C. It shall be the responsibility of Property Owners and the sponsors of proposed development activities to know the location of environmentally sensitive areas and jurisdictional shoreline areas on and near their property and to comply with the provisions of this Chapter at all times.

1. Property Owners and Project Sponsors that may be proposing development activities in proximity of environmentally sensitive areas are strongly encouraged to schedule an appointment with County Staff to discuss the applicability of these regulations prior to preparing and submitting land use applications to the County.

2. The County shall maintain public maps and other resources that may assist in the identification of environmentally sensitive areas. However, it shall be the responsibility of the Property Owner or Project Sponsor to identify and map all environmentally sensitive areas on their property.

a. The presence of environmentally sensitive areas or associated buffers on a parcel triggers the requirements of this Chapter, regardless of whether or not an environmentally sensitive area or buffer is depicted on an official map.

xx.36.030 General Provisions

A. Mitigation Sequencing. Property Owners or Project Sponsors shall, when designing proposed new development activities that may potentially affect environmentally sensitive areas, use the following measures, listed in priority order, to avoid, minimize, and/or mitigate adverse impacts:

1. Avoiding the adverse impact altogether by not taking a certain action or parts of an action or moving the proposed action;

2. Minimizing adverse impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology and engineering, or by taking affirmative steps to avoid or reduce adverse impacts;
3. Rectifying the adverse impact by repairing, rehabilitating or restoring the affected environment;
4. Reducing or eliminating the adverse impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the adverse impact by replacing, enhancing, or providing similar substitute resources or environments; and/or
6. Monitoring the impact and taking appropriate corrective measures.

B. Environmentally Sensitive or Critical Areas Reports.

1. The cost of preparing any required environmentally sensitive areas report(s) shall be borne by the Applicant.
2. Environmentally sensitive areas reports shall be prepared by a qualified professional(s) as determined by the County.
3. The cost of a professional peer review of any required environmentally sensitive areas report, if required by the County, shall be borne by the Applicant.
4. Individual environmentally sensitive areas reports may be combined with other required environmentally sensitive areas or shoreline reports, in a format approved by the County.

C. Application Requirements.

1. It shall be the responsibility of Property Owners and the Sponsors of proposed development activities to identify all environmentally sensitive areas and jurisdictional shoreline areas on their property and within 300 feet of their property lines on all application materials including required environmental checklists.
 - a. If a proposed development activity that may have a potential adverse impact on an environmentally sensitive area(s) does not require a specific permit

such as a building permit, short plat approval, etc, compliance with the provisions of this Chapter is still required.

(1) If a specific permit is not required, the County may require the Project Sponsor to submit an application for a Critical Areas Authorization.

(2) Project Sponsors are strongly encouraged to schedule an appointment and meet with County Staff to discuss development plans before application materials are prepared and submitted.

2. All land use applications submitted to the County involving environmentally sensitive areas must include a SEPA Checklist and at a minimum such information identified in WAC 173-27-180.

3. In order to fully assess the potential impact on environmentally sensitive areas and the effectiveness mitigation sequencing methods the County may require the preparation of an Environmentally Sensitive Areas Report(s) and supporting technical studies prepared by a qualified professional as determined by the County.

D. Overlapping Buffer Requirements. In the event that more than one buffer applies to a proposed development, the buffer affording the highest level of protection as determined by the County should apply where the buffers overlap, unless specifically authorized by the County.

1. For example, if a development proposal involves a parcel that includes a jurisdictional shoreline, a jurisdictional wetland, and a non-jurisdictional fish bearing stream there could be three different buffer requirements applicable to the site. Where the buffer areas overlap, the widest buffer area would apply, unless a lesser buffer area is approved in accordance with the provisions of this Title.

E. Emergency Measures to Protect the Public Health and Safety. Nothing in this Title shall prevent a public agency or a private property owner from taking emergency actions necessary to protect persons and property from immediate or urgent threats to the public health and safety.

1. Emergency measures should be limited to reasonable measures necessary to protect the public health and safety from the immediate or urgent threat.

2. The County, and other state and federal agencies, such as the Washington State Department of Fish and Wildlife, should be contacted as soon as practical after

the emergency action to determine if any additional measures are required and what if any permits may be required.

3. Remediation may be required after the fact to restore the site to pre-emergency conditions. Once the immediate threat has been addressed, any adverse impacts on critical areas should be minimized and mitigated according to the provisions of this Chapter.
4. Property owners are advised that the failure to take appropriate preventative measures, the failure to secure required permits in advance, the failure to meet conditions of approval including the maintenance of erosion control measures, and/or the failure to act in a timely manner may not constitute an emergency and may result in the imposition of civil penalties and/or remediation measures.

F. Performance Bonds. In an effort to ensure the successful installation, operation, and maintenance of compensatory mitigation measures or other requirements under this Title, the County may require a performance bond(s) or comparable financial guarantee.

1. The performance bond or guarantee may be up to 150% of the estimated cost of the required improvement.
2. The duration and form of the financial guarantee shall be determined by the County in consultation with the County Prosecuting Attorney.

xx.36.040 Wetlands

A. The purposes of this Section are to:

1. Recognize and protect the beneficial functions 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 ground water; 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 bio-filtration, adsorption, and retention and transformation of sediments, nutrients, and toxicants.
2. Regulate land use to avoid adverse effects on wetlands and maintain the functions and values of wetlands.
3. Establish review procedures for development proposals in and adjacent to wetlands.

B. Identification of wetlands and the delineation of their boundaries pursuant to this Chapter shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplements. All areas within Pend Oreille County meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this Chapter.

1. Wetlands shall be delineated by a qualified wetland professional in accordance with the U. S. Army Corps of Engineers publication *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (WMVCR)*, *Regional Supplement to the 1987 Wetland Delineation Manual* (Corps Publication # ERDC/ EL TR-10-03).
2. Wetland delineations are valid for five years; after five years the County shall determine whether a revision or additional assessment is necessary.

C. Wetlands shall be rated according to the Washington Department of Ecology wetland rating system, as set forth in the *Washington State Wetland Rating System for Eastern Washington* (Ecology Publication #04-06-015, or as revised and approved by Ecology), provided that the County may utilize the Washington Department of Ecology wetland rating system, as set forth in the *Washington State Wetland Rating System for Western Washington* (Ecology Publication #04-06-025, or as revised and approved by Ecology) if warranted by local conditions.

1. Category I wetlands include:
 - a. Alkali wetlands;
 - b. Wetlands that are identified by scientists of the Washington Natural Heritage Program/DNR as high quality wetlands;
 - c. Bogs;
 - d. Mature and old-growth forested wetlands over ¼ acre with slow-growing trees;
 - e. Forests with stands of aspen; and
 - f. Wetlands that scores of 22 points or more for all functions or having “Special Characteristics” identified in the rating system.

(Note: Category I Wetlands typically represent a unique or rare wetland type; are more sensitive to disturbance than most wetlands; are relatively undisturbed

and contain ecological attributes that are difficult if not impossible to replace; or, provide a high level of function).

2. Category II wetlands include:

- a. Forested wetlands in the floodplains of rivers;
- b. Mature and old-growth forested wetlands over ¼ acre with fast-growing trees;
- c. Vernal pools; and
- d. Wetlands that perform for all functions scores between 19 to 21 points or having “Special Characteristics” identified in the rating system.

3. Category III wetlands include:

- a. Vernal pools that are isolated; and
- b. Wetlands with score between 16-18 points or more for all functions identified in the rating system.

(Note: Category III wetlands oftentimes 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).

4. Category IV wetlands have the lowest level of functions, scoring less than 16 points for all functions identified in the rating system.

(Note: Category IV wetlands are typically heavily disturbed. These are wetlands that we should be able to replace, and in some cases be able to improve. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions and also need to be protected).

5. Wetland rating categories shall not change due to illegal modifications or unauthorized activities.

D. Applicability. In addition to the provisions of this Chapter, all development activities including new uses of land and buildings and changes of use must comply with the Table of Permitted Zoning Uses and all provisions of this Title as well as

all applicable provisions of local, state, and federal law, unless specifically exempted.

1. Development activities proposed for jurisdictional shoreline areas must also comply with the provisions of Chapter xx.34 Shoreline Regulations.
 - a. This includes the Table of Permitted Shoreline Uses which may be more restrictive than the uses permitted in the Table of Permitted Zoning Uses.
2. In particular, the following activities are subject to the provisions of this Section if they are proposed for a wetland or wetland buffer:
 - a. The construction, reconstruction, demolition, or expansion of any structure;
 - b. The creation of new lots through a subdivision, short plat, Master Planned Resort, RV Park, RV Resort, or binding site plan;
 - c. The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind;
 - d. The dumping of, discharging of, or filling with any material;
 - e. The draining, flooding, or disturbing the water level or water table;
 - f. The destruction or alteration of wetland vegetation through clearing, harvesting, shading, intentional burning, or planting of vegetation that would alter the character of a regulated wetland;
 - g. Pile driving;
 - h. "Class IV - General Forest Practices" under the authority of the "1992 Washington State Forest Practices Act Rules and Regulations", WAC 222-12030, or as thereafter amended;
 - i. Proposed uses or activities determined by the County to have a potential adverse impact on wetland values and functions; and/or
 - j. Activities that may result in:
 - (1) A significant change of water temperature.

- (2) A significant change of physical or chemical characteristics of the sources of water to the wetland.
 - (3) A significant change in the quantity, timing or duration of the water entering the wetland.
 - (4) The introduction of pollutants.
- E. Prospective applicants are encouraged to contact the Department of Ecology Eastern Regional office and the U. S. Army Corps of Engineers to determine what state and federal permits and approvals may be required.
- F. The sponsors of proposed development activities that involve or may impact designated wetlands or their buffers shall prepare and submit for County review and approval an environmentally sensitive areas report unless specifically exempted. The following activities may be determined by the County to be exempt from the buffer requirements, and/or other provisions of this Section provided that appropriate measures are proposed to avoid or mitigate potential adverse impacts:
- 1. All isolated Category III and IV wetlands less than 1,000 square feet that:
 - a. Are not associated with riparian areas or buffer;
 - b. Are not part of a wetland mosaic;
 - c. Do not contain habitat identified as essential for local populations of priority species identified by Washington Department of Fish and Wildlife or species of local importance;
 - d. Are not a vernal pool;
 - e. Are not an alkali wetland; and
 - f. Do not contain aspen stands
 - 2. Conservation or preservation of soil, water, vegetation, fish, shellfish, and/or other wildlife that does not entail changing the structure or functions of the existing wetland.
 - 3. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling

of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.

4. Drilling for utilities/utility corridors under a wetland, with entrance/exit portals located completely outside of the wetland buffer, provided that the drilling does not interrupt the ground water connection to the wetland or percolation of surface water down through the soil column. Specific studies by a hydrologist are necessary to determine whether the ground water connection to the wetland or percolation of surface water down through the soil column will be disturbed.
 5. Enhancement of a wetland through the removal of non-native invasive plant species. Removal of invasive plant species shall be restricted to hand removal unless permits from the appropriate regulatory agencies have been obtained for approved biological or chemical treatments. All removed plant material shall be taken away from the site and appropriately disposed of. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds must be handled and disposed of according to a noxious weed control plan appropriate to that species. Re-vegetation with appropriate native species at natural densities is allowed in conjunction with removal of invasive plant species.
 6. Educational and scientific research activities.
 7. Normal and routine maintenance and repair of any existing public or private facilities within an existing right-of-way or easement, provided that the maintenance or repair does not expand the footprint or use of the facility, easement, or right-of-way.
 8. Those activities and uses conducted pursuant to the Washington State Forest Practices Act and its rules and regulations, WAC 222-12-030, where state law specifically exempts local authority, except those developments requiring local approval for Class 4 – General Forest Practice Permits (conversions) as defined in RCW 76.09 and WAC 222-12.
- G. Wetland Buffers. Unless specifically exempted, all regulated wetlands shall have a wetland buffer that shall not be disturbed unless specifically authorized.
1. All wetland buffers shall be measured from the wetland edge, as established by the approved wetland boundary survey.
 2. The width of the required wetland buffer shall be based on a determination by the County of the intensity of the proposed use. For purposes of administering this Section the following shall be used to determine low, medium, and high intensity activities:

- a. High intensity activities may include:
 - (1) Commercial uses;
 - (2) Industrial uses;
 - (3) More than one dwelling unit per acre;
 - (4) Higher intensity recreational uses such as golf courses, ball fields, motorized vehicle facilities; and/or
 - (5) Other uses determined by the County to be of a higher intensity than the enumerated low or medium intensity uses.
 - b. Medium intensity activities may include:
 - (1) New residential development at a density not to exceed one (1) dwelling unit per acre;
 - (2) Moderate intensity open space and parks with recreation activities such as biking and jogging;
 - (3) Less intensive agricultural activities such as orchards and hay fields; and/or
 - (4) Building logging roads.
 - c. Low intensity activities may include:
 - (1) Forestry (cutting trees only);
 - (2) Less intensive recreation activities such as walking bird watching, etc; and/or
 - (3) Other uses determined by the County to be of lesser intensity than the enumerated high or medium intensity uses.
3. Unless otherwise authorized, the required wetland buffer widths, shall be based on the category of the wetland and the intensity of the proposed development activity as follows in Table 1:

Table 1 - Wetland Buffer Widths

Wetland Characteristics	Buffer Width by Impact of Proposed Land Use
Category IV Wetlands (For wetlands scoring less than 16 points for all functions)	
Score for all 3 basic functions is less than 16 points	Low – 25 feet Moderate – 40 feet High – 50 feet
Category III Wetlands (For wetlands scoring 16 to 18 points or more for all functions)	
Moderate level of function for habitat (score for habitat 5 to 7 points) *If wetland scores 8 to 9 habitat points, use Category II buffers	Low – 75 feet Moderate – 110 feet High – 150 feet
Score habitat for 3 to 4 points	Low – 40 feet Moderate – 60 feet High – 80 feet
Category II Wetlands (For wetlands that score 19 to 21 points or more for all functions or having the "Special Characteristics" identified in the rating system)	
High level of function for habitat (score for habitat 8 to 9 points)	Low – 100 feet Moderate – 150 feet High – 200 feet
Moderate level of function for habitat (score for habitat 5 to 7 points)	Low – 75 feet Moderate – 110 feet High – 150 feet
High level of function for water quality improvement and low for habitat (score for water quality 8 to 9 points; habitat less than 5 points)	Low – 50 feet Moderate – 75 feet High – 100 feet
Riparian forest	Buffer width to be based on score for habitat functions or water quality functions
Not meeting above characteristic	Low – 50 feet Moderate – 75 feet High – 100 feet
Vernal pool	Low – 100 feet Moderate – 150 feet High – 200 feet Or develop a regional plan to protect the most important vernal pool complexes – buffers of vernal pools outside protection zones can then be reduced to: Low – 40 feet Moderate – 60 feet High – 80 feet

Wetland Characteristics	Buffer Width by Impact of Proposed Land Use
Category I Wetlands (For wetlands that score 22 points or more for all functions or having the "Special Characteristics" identified in the rating system)	
Wetlands of High Conservation Value	Low – 125 feet Moderate – 190 feet High – 250 feet
High level of function for habitat (score for habitat 8 to 9 points)	Low – 100 feet Moderate – 150 feet High – 200 feet
Moderate level of function for habitat (score for habitat 5 to 7 points)	Low – 75 feet Moderate – 110 feet High – 150 feet
High level of function for water quality improvement (8 to 9 points) and low for habitat (less than 5 points)	Low – 50 feet Moderate – 75 feet High – 100 feet
Not meeting above characteristics	Low – 50 feet Moderate – 75 feet High – 100 feet

4. The width of a wetland buffer may be increased or decreased by the County on a case-by-case basis based on approval of a wetland report that documents that a larger buffer is needed to protect wetland functions or values or that a smaller buffer adequately protects wetlands without a net loss of functions or values.
 - a. The standard buffer widths identified above assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer should either be planted to create the appropriate plant community or the buffer should be widened to ensure that adequate functions of the buffer are provided. The proponent shall maintain the viability of the buffer in perpetuity as specified in the wetland report.
 - b. Wetland buffers may be reduced by no more than 25% of the standard buffer width.

5. The County may approve proposals to average required buffers based on a finding that the averaging will result in greater than or equal wetland protection or is necessary to allow the reasonable use of property, provided that:
 - a. The total area of the wetland buffer is not reduced; and
 - b. There are no feasible alternatives to the site design that could be accomplished without buffer averaging.

- c. The averaged buffer will not result in degradation of the wetlands functions and values as demonstrated by a critical areas report from a qualified wetland professional.
 - d. The buffer at its narrowest point is never less than either $\frac{3}{4}$ of the required width or 75 feet for Category I and II, 50 feet for Category III and 25 feet for Category IV, whichever is greater.
6. The following uses may be permitted in a wetland buffer provided that they are not prohibited by other applicable laws and are conducted in a manner that does not adversely affect wetland function and values:
- a. Conservation or restoration activities aimed at protecting the soil, water, vegetation, or wildlife.
 - b. Passive recreation facilities designed and in accordance with an approved critical area report, including:
 - (1) Walkways and trails; and
 - (2) Wildlife-viewing structures.
 - c. Dispersed camping areas.
 - d. Educational and scientific research activities.
 - e. Normal and routine maintenance and repair of any existing public or private facilities within an existing right-of-way, provided that the maintenance or repair does not increase the footprint or use of the facility or right-of-way.
 - f. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.
 - g. Drilling for utilities/utility corridors under a buffer, with entrance/exit portals located completely outside of the wetland buffer boundary, provided that the drilling does not interrupt the ground water connection to the wetland or percolation of surface water down through the soil column. Specific studies by a hydrologist are necessary to determine

whether the ground water connection to the wetland or percolation of surface water down through the soil column is disturbed.

- h. Enhancement of a wetland buffer through the removal of non-native invasive plant species. Removal of invasive plant species shall be restricted to hand removal. All removed plant material shall be taken away from the site and appropriately disposed of. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds must be handled and disposed of according to a noxious weed control plan appropriate to that species. Revegetation with appropriate native species at natural densities is allowed in conjunction with removal of invasive plant species.
- i. Stormwater management facilities are limited to stormwater dispersion outfalls and bio-swales in the outer 25% of the buffer of Category III or IV wetlands only, provided that the location of such facilities will not degrade the functions or values of the wetland.
- j. Repair and maintenance of non-conforming uses or structures, where legally established within the buffer, provided they do not increase the degree of nonconformity.

8. Signage and Fencing.

- a. All buffers shall be temporarily fenced during construction activities in a manner approved by the County that should include highly visible and durable protective barrier to prevent access and to protect the wetland and associated buffer.
- b. As a condition of approval the County may require temporary or permanent signs to clearly identify and protect wetlands and associated buffers.
- c. As a condition of approval, the County may require or authorize the construction of a temporary or permanent fence to protect wetlands and associated buffers, provided that:
 - (1) Fences should be installed on the outside perimeter of required wetland buffers;
 - (2) The fence shall be designed and constructed so that it does not interfere with animal migration and does not adversely affect animal habitats.

(3) Permanent fencing may be required if domestic grazing animals are on site or may be introduced to the site in the future.

(4) Property owners are encouraged to consider the impacts of fencing on neighboring property owners.

H. Mitigation Sequencing. All proposed development activities that may impact wetlands and their associated buffers shall be designed and constructed in accordance with the following principles, listed in order of preference:

1. Avoid the impact altogether by not taking a certain action or parts of an action.
2. Minimize impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts.
3. Rectify the impact by repairing, rehabilitating, or restoring the affected environment.
4. Reduce or eliminate the impact over time by preservation and maintenance operations.
5. Compensate for the impact by replacing, enhancing, or providing substitute resources or environments.
6. Monitor the required compensation and take remedial or corrective measures when necessary.

I. Compensatory Mitigation. In certain circumstances where impacts to wetlands or their associated buffers cannot be avoided or minimized, the County may approve compensatory mitigation to achieve equivalent or greater biologic functions.

1. Compensatory mitigation for alterations to wetlands shall be used only for impacts that cannot be avoided or minimized and shall achieve equivalent or greater biologic functions. Compensatory mitigation plans shall be consistent with *Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10 Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1)*, Ecology Publication #06-06-011b, Olympia, WA, March 2006 or as revised, *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1)*. *Washington State Department of Ecology Publication #06-06-011a. Olympia, Washington. Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans--Version 1*, (Ecology

Publication #06-06-011b, Olympia, WA, March 2006 or as revised), and *Selecting Wetland Mitigation Sites Using a Watershed Approach (Eastern Washington)* (Publication #10-06-07, November 2010).

2. At a minimum, the mitigation ratios shall be as provided in Table 2:

Table 2 - Mitigation Ratios

Category and Type of Wetland	Creation or Re-establishment	Rehabilitation	Enhancement
Category I: Bog, Natural Heritage site	Not considered possible	Case by case	Case by case
Category I: Mature Forested	6:1	12:1	24:1
Category I: Based on functions	4:1	8:1	16:1
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

Note:

1 These ratios are based on the assumption the rehabilitation or enhancement actions implemented represent the average degree of improvement possible for the site. Proposals to implement more effective rehabilitation or enhancement actions may result in a lower ratio, and less-effective actions may result in a higher ratio. The distinction between rehabilitation and enhancement is not clear-cut. Instead, rehabilitation and enhancement actions span a continuum. Proposals that fall within the gray area between rehabilitation and enhancement will result in a ratio that lies between the ratios for rehabilitation and the ratios for enhancement.

3. Increased Replacement Ratio. The standard replacement ratio may be increased under any of the following circumstances consistent with:
 - a. High degree of uncertainty as to the success of the proposed restoration or creation;
 - b. Significant period of time between destruction and replication of wetland functions;
 - c. Projected losses in functions;
 - d. Off-site compensation.
4. Decreased Replacement Ratio. The standard replacement ratio may be decreased under the following circumstances:
 - a. Findings of special studies coordinated with agencies and/or a qualified professional, which demonstrate protection of wetland function or value is attained under the decreased ratio.
5. Advance Mitigation. The proposed actions for compensation are conducted in advance of the impact and are shown to be successful. Mitigation for projects with pre-identified impacts to wetlands may be constructed in advance of the impacts, if the mitigation is implemented according to federal rules.
6. In all cases, a minimum acreage replacement ratio of 1:1 shall be required.

7. Mitigation requirements may also be determined using the credit/debit tool described in “Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Eastern Washington: Final Report (Ecology Publication #11-06-015, August 2012).
8. Methods to achieve compensation for wetland functions shall be approached in the following order of preference:
 - a. Restoration (re-establishment and rehabilitation) of wetlands.
 - b. Creation (establishment) of wetlands on disturbed upland sites such as those with vegetative cover consisting primarily of non-native species. This should be attempted only when there is an adequate source of water and it can be shown that the surface and subsurface hydrologic regime is conducive to the wetland community that is anticipated in the design.
 - c. Enhancement of significantly degraded wetlands in combination with restoration or creation. Enhancement alone will result in a loss of wetland acreage and is less effective at replacing the functions lost. Enhancement should be part of a mitigation package that includes replacing the impacted area and meeting appropriate ratio requirements.
 - d. Preservation of high-quality, at risk-wetlands as compensation is generally acceptable when done in combination with restoration, creation, or enhancement, provided that a minimum of 1:1 acreage replacement is provided by reestablishment or creation. Preservation of high-quality, at-risk wetlands and habitat may be considered as the sole means of compensation for wetland impacts when the following criteria are met:
 - (1) Wetland impacts will not have a significant adverse impact on habitat for listed fish, or other ESA species.
 - (2) There is no net loss of habitat functions within the watershed or basin.
 - (3) The impact area is small (generally less than ½ acre) and/or impacts are occurring to a low functioning system (Category III or IV wetland).
 - (4) All preservation sites shall include buffer areas adequate to protect the habitat and its function from encroachment and degradation.
9. Compensatory mitigation actions shall be conducted on the site of the alteration except when all of the following apply (refer to the guidance

document "Selecting Wetland Mitigation Sites Using a Watershed Approach (Eastern Washington) (Publication #10-06-07, November 2010):

- a. There are no reasonable opportunities on-site (e.g., on-site options would require elimination of high-functioning upland habitat), or opportunities on site do not have a high likelihood of success based on a determination of the capacity of the site to compensate for the impacts. Considerations should include: anticipated replacement ratios for wetland mitigation, buffer conditions and proposed widths, available water to maintain anticipated hydro-geomorphic classes of wetlands when restored, proposed flood storage capacity, and potential to mitigate riparian fish and wildlife impacts (such as connectivity);
 - b. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland; and
 - c. Off-site locations shall be in the same sub-drainage basin unless:
 - (1) Established watershed goals for water quality, flood storage or conveyance, habitat, or other wetland functions have been established by the County and strongly justify location of mitigation at another site; or
 - (2) Credits from a state-certified wetland mitigation bank are used as compensation, and the use of credits is consistent with the terms of the bank's certification.
 - d. The design for the compensatory mitigation project needs to be appropriate for its location (i.e., position in the landscape). Therefore, compensatory mitigation should not result in the creation, restoration, or enhancement of an atypical wetland. An atypical wetland refers to a compensation wetland (e.g., created or enhanced) that does not match the type of existing wetland that would be found in the geomorphic setting of the site (i.e., the water source(s) and hydroperiod proposed for the mitigation site are not typical for the geomorphic setting). Likewise, it should not provide exaggerated morphology or require a berm or other engineered structures to hold back water. For example, excavating a permanently inundated pond in an existing seasonally saturated or inundated wetland is one example of an enhancement project that could result in an atypical wetland. Another example would be excavating depressions in an existing wetland on a slope, which would require the construction of berms to hold the water.
10. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife, and flora. Whenever practical, it is preferred that compensatory mitigation projects be completed prior to activities that will

disturb wetlands, but at a minimum compensatory mitigation shall be completed prior to the completion of the approved development activity and the issuance of a certificate of occupancy.

J. Wetland Mitigation Banks.

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

K. In-Lieu Fee. To aid in the implementation of off-site mitigation, the County may develop a program which prioritizes wetland areas for use as mitigation and/or allows payment in lieu of providing mitigation on a development site. This program shall be developed and approved through a public process and be consistent with state and federal rules.

L. Wetlands Report. Unless specifically exempted by the County, all applications for proposed development activities in or near a wetland or wetland buffer shall include a wetlands report prepared by a qualified professional, as determined by the County. The County may provide more detailed guidelines for the preparation of a wetlands report. At a minimum a wetlands report and the accompanying plan sheets should contain the following information:

1. The name and contact information of the Applicant; authorization of the property owner if the owner is not the Applicant; the name, qualifications, and contact information for the primary author(s) of the wetland critical area report; a description of the proposal; identification of all the local, state, and/or federal

wetland-related permit(s) required for the project; and a vicinity map for the project.

2. A statement specifying the accuracy of the report and all assumptions made and relied upon.
3. Documentation of any fieldwork performed on the site, including field data sheets for delineations, function assessments, baseline hydrologic data, etc.
4. A description of the methodologies used to conduct the wetland delineations, function assessments, or impact analyses including references.
5. Identification and characterization of all critical areas, wetlands, water bodies, shorelines, floodplains, and buffers on or adjacent to the proposed project area. For areas off site of the project site, estimate conditions within 300 feet of the project boundaries using the best available information.
6. For each wetland identified on-site and within 300 feet of the project site provide the following based on an assessment of the entire wetland complex, not just the portion present on the proposed project site:
 - a. The wetland rating;
 - b. Required buffers;
 - c. Hydrogeomorphic classification;
 - d. Wetland acreage based on a professional survey from the field delineation (acreages for on-site portion and entire wetland area including off-site portions);
 - e. Cowardin classification of vegetation communities; and
 - f. Habitat elements; soil conditions based on site assessment and/or soil survey information; and to the extent possible, hydrologic information such as location and condition of inlet/outlets (if they can be legally accessed), estimated water depths within the wetland, and estimated hydroperiod patterns based on visual cues (e.g., algal mats, drift lines, flood debris, etc.).
7. A description of the proposed actions including an estimation of acreages of impacts to wetlands and buffers based on the field delineation and survey and

an analysis of site development alternatives including a no-development alternative.

8. An assessment of the probable cumulative benefits and impacts to the wetlands and buffers resulting from the proposed development.
9. A description of reasonable efforts made to apply the required mitigation sequencing, xx.36.040, to avoid, minimize, and mitigate impacts to critical areas.
10. A discussion of measures, including avoidance, minimization, and compensation, proposed to preserve existing wetlands and restore any wetlands that were degraded prior to the current proposed land-use activity.
11. A conservation strategy for habitat and native vegetation that addresses methods to protect and enhance on-site habitat and wetland functions.
12. An evaluation of the functions of the wetland and adjacent buffer. Include reference for the method used and data sheets.
13. A description of proposed compensatory mitigation measures, if any, to address adverse impacts to wetlands and their buffers that cannot be avoided through mitigation sequencing.
14. A copy of the site plan sheet(s) for the project must be included with the written report and must include, at a minimum:
 - a. Maps (to scale) depicting delineated and surveyed wetland and required buffers on-site, including buffers for off-site critical areas that extend onto the project site; the development proposal; other critical areas; grading and clearing limits; areas of proposed impacts to wetlands and/or buffers (include square footage estimates; and the location of proposed mitigation sequencing activities including proposed compensatory mitigation if applicable.
 - b. A depiction of the proposed stormwater management facilities and outlets (to scale) for the development, including estimated areas of intrusion into the buffers of any critical areas. The written report shall contain a discussion of the potential impacts to the wetland(s) associated with anticipated hydroperiod alterations from the project.

M. Unauthorized Alterations and Enforcement. Unless otherwise provided for in this Title, the following shall apply:

1. When a wetland or its buffer has been altered in violation of this Chapter, all ongoing development work shall stop and the critical area shall be restored.
 - a. The County shall have the authority to issue a “stop-work” order to cease all ongoing development work and order restoration, rehabilitation, or replacement measures at the owner’s or other responsible party’s expense to compensate for violation of provisions of this Chapter.
2. All development work shall remain stopped until a restoration plan is prepared and approved by County. Such a plan shall be prepared by a qualified professional using the currently accepted scientific principles and shall describe how the actions proposed meet the minimum requirements described below. The County may, at the violator’s expense, seek expert advice in determining the adequacy of the plan. Inadequate plans shall be returned to the applicant or violator for revision and resubmittal.
3. The following minimum performance standards shall be met for the restoration of a wetland, provided that if the violator can demonstrate that greater functions and habitat values can be obtained, these standards may be modified:
 - a. The historic structure, functions, and values of the affected wetland shall be restored, including water quality and habitat functions.
 - b. The historic soil types and configuration shall be restored to the extent practicable.
 - c. The wetland and buffers shall be replanted with native vegetation that replicates the vegetation historically found on the site in species types, sizes, and densities. The historic functions and values should be replicated at the location of the alteration.
 - d. Information demonstrating compliance with other applicable provisions of this Chapter shall be submitted to the County.
2. The County is authorized to make site inspections and take such actions as are necessary to enforce this Chapter. Representatives of the County shall present proper credentials and make a reasonable effort to contact any property owner before entering onto private property.
3. Any person, party, firm, corporation, or other legal entity convicted of violating any of the provisions of this Chapter shall be guilty of a misdemeanor.

- a. Each day or portion of a day during which a violation of this Chapter is committed or continued shall constitute a separate offense. Any development carried out contrary to the provisions of this Chapter shall constitute a public nuisance and may be enjoined as provided by the statutes of the state of Washington. The County may levy civil penalties against any person, party, firm, corporation, or other legal entity for violation of any of the provisions of this Chapter.
- b. If the wetland affected cannot be restored, monies collected as penalties shall be deposited in a dedicated account for the preservation or restoration of landscape processes and functions in the watershed in which the affected wetland is located. The County may coordinate its preservation or restoration activities with other communities in the watershed to optimize the effectiveness of the restoration action.

xx.36.050 Geologically Hazardous Areas

- A. The purposes of this Section are to:
 1. Identify and protect areas susceptible to erosion, sliding, earthquake or other geological events.
 2. Provide guidance to enable property owners to avoid activities that may cause or be susceptible to damage from significant hazards.
- B. Geologically hazardous areas are those areas susceptible to one or more of the following types of hazards:
 1. Erosion Hazard;
 2. Landslide Hazard;
 3. Seismic Hazard;
 4. Mine Hazard;
 5. Volcanic Hazard; or
 6. Other geological events such as mass wasting, debris flows, rock falls, and differential settlement.
- C. Designation of Geological Hazard Areas. The following criteria shall be used to identify specific geological hazard areas, provided that the County may utilize

updated or new information to identify these areas consistent with the principals of Best Available Science:

1. Erosion hazard areas are at least those areas identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "moderate to severe," "severe," or "very severe" rill and inter-rill erosion hazard. Erosion hazard areas are also those areas impacted by shore land and/or stream bank erosion and those areas within a river's channel migration zone.
2. Landslide hazard areas are areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. Example of these may include, but are not limited to the following:
 - a. Areas of historic failures, such as:
 - (1) Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" limitation for building site development;
 - (2) Those areas mapped by the Washington State Department of Ecology (Coastal Zone Atlas) or the Washington State 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); or
 - (3) Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington State Department of Natural Resources;
 - b. Areas with all three of the following characteristics:
 - (1) Slopes steeper than fifteen percent (15%);
 - (2) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
 - (3) Springs or ground water seepage.

- c. Areas that have shown movement during the Holocene Epoch (from ten thousand years ago to the present) or that are underlain or covered by mass wastage debris of that epoch.
 - (1) Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;
 - (2) Slopes having gradients steeper than eighty percent (80%) subject to rock fall during seismic shaking;
 - (3) Areas potentially unstable because of rapid stream incision, stream bank erosion, and undercutting by wave action;
 - (4) Areas that show evidence of, or are at risk from snow avalanches;
 - (5) Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding; and
 - (6) Any area with a slope of forty percent (40%) or steeper and with a vertical relief of ten (10) or more feet except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least ten (10) feet of vertical relief.
- 3. Seismic hazard areas are areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting. Settlement and soil liquefaction conditions occur in areas underlain by cohesionless, loose, or soft-saturated soils of low density, typically in association with a shallow ground water table. One indicator of potential for future earthquake damage is a record of earthquake damage in the past. Ground shaking is the primary cause of earthquake damage in Washington. The strength of ground shaking is primarily affected by:
 - a. The magnitude of an earthquake;
 - b. The distance from the source of an earthquake;
 - c. The type of thickness of geologic materials at the surface; and
 - d. The type of subsurface geologic structure.

4. Mine hazard areas are those areas underlain by or affected by mine workings such as adits, gangways, tunnels, drifts, or airshafts, and those areas of probable sink holes, gas releases, or subsidence due to mine workings. Factors that should be considered include: proximity to development, depth from ground surface to the mine working, and geologic material.
 5. Volcanic hazard areas are areas subject to pyroclastic flows, lava flows, debris avalanche, and inundation by debris flows, lahars, mudflows, or related flooding resulting from volcanic activity.
 6. Geologically hazardous areas shall also include areas determined by the County to be susceptible to other geological events including mass wasting, debris flows, rock falls, and differential settlement.
- D. The sponsors of proposed development activities that involve or may impact geologically hazardous areas or their buffers shall prepare and submit for County review and approval an environmentally sensitive areas report unless specifically exempted. The following activities may be determined by the County to be exempt from the requirements to prepare an environmentally sensitive areas report, the buffer requirements, and/or other provisions of this Section provided that appropriate measures are proposed to avoid or mitigate potential adverse impacts:
1. The following activities may be exempt in Seismic Hazard Areas, Mine Hazard Areas, Volcanic Hazard Areas, and Other Hazard Areas based on a determination by the County that the proposed activity will not increase the risk of hazard.
 - a. Additions to existing residences that are two hundred fifty (250) square feet or less; and
 - b. Installation of fences.
- E. Performance Standards.
1. General Requirements. Alterations of geologically hazardous areas or associated buffers may only occur for activities that:
 - a. Will not increase the threat of the geological hazard to adjacent properties beyond pre-development conditions;
 - b. Will not adversely impact other critical areas;
 - c. Are designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than pre-development conditions; and

- d. Are certified as safe as designed and under anticipated conditions by a qualified engineer or geologist, licensed in the State of Washington.
2. In addition to the general requirements above, proposed development activities on sites which contain erosion or landslide hazard areas shall meet the following standards:
 - a. A buffer shall be established from all edges of landslide hazard areas. The size of the buffer shall be determined by the County to eliminate or minimize the risk of property damage, death, or injury resulting from landslides caused in whole or part by the development, based upon review of and concurrence with a critical area report prepared by a qualified professional.
 - (1) The minimum buffer shall be equal to the height of the slope or fifty (50) feet, whichever is greater.
 - (2) The buffer may be reduced to a minimum of ten (10) feet when a qualified professional demonstrates to the County's satisfaction that the reduction will adequately protect the proposed development, adjacent developments, and uses and the subject critical area.
 - (3) The buffer may be increased based on a finding by the County that a larger buffer is necessary to prevent risk of damage to proposed and existing development.
 - b. Alterations of an erosion or landslide hazard area and/or buffer may only occur for activities for which a hazards analysis is submitted and certifies that:
 - (1) The development will not increase surface water discharge or sedimentation to adjacent properties beyond pre-development conditions;
 - (2) The development will not decrease slope stability on adjacent properties; and
 - (3) Such alterations will not adversely impact other critical areas.
 - c. Development within an erosion or landslide hazard area and/or buffer shall be designed to meet the following basic requirements unless it can be demonstrated that an alternative design that deviates from one or more of these standards provides greater long-term slope stability while meeting all

other provisions of this Title. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function. The basic development design standards are:

- (1) The proposed development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the Uniform Building Code;
 - (2) Structures and improvements shall be clustered to avoid geologically hazardous areas and other critical areas;
 - (3) Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;
 - (4) Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;
 - (5) The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;
 - (6) The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes; and
 - (7) Development shall be designed to minimize impervious lot coverage.
- d. Unless otherwise provided or as part of an approved alteration, removal of vegetation from an erosion or landslide hazard area or related buffer shall be prohibited;
- e. Approved clearing activities should be allowed only from May 1 to October 1 of each year provided that the County may extend or shorten the season on a case-by-case basis depending on actual weather conditions, except that timber harvest, not including brush clearing or stump removal, may be allowed pursuant to an approved forest practice permit issued by the Washington State Department of Natural Resources;
- f. Utility lines and pipes shall be permitted in erosion and landslide hazard areas only when the Applicant demonstrates that no other practical alternative is available. The line or pipe shall be located above ground and

properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior;

- g. Point discharges from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area shall be prohibited except as follows:
 - (1) Conveyed via continuous storm pipe downslope to a point where there are no erosion hazards areas downstream from the discharge;
 - (2) Discharged at flow durations matching pre-developed conditions, with adequate energy dissipation, into existing channels that previously conveyed stormwater runoff in the pre-developed state; or
 - (3) Dispersed discharge upslope of the steep slope onto a low-gradient undisturbed buffer demonstrated to be adequate to infiltrate all surface and stormwater runoff, and where it can be demonstrated that such discharge will not increase the saturation of the slope;
 - h. The division of land in landslide hazard areas and associated buffers is subject to the following:
 - (1) Land that is located wholly within a landslide hazard area or its buffer may not be subdivided. Land that is located partially within a landslide hazard area or its buffer may be divided provided that each resulting lot has sufficient buildable area outside of, and will not affect, the landslide hazard or its buffer.
 - (2) Access roads and utilities may be permitted within the landslide hazard area and associated buffers if the County determines that no other feasible alternative exists; and
 - i. On-site sewage disposal systems, including drain fields, shall be prohibited within erosion and landslide hazard areas and related buffers.
3. In addition to the general requirements above, proposed development activities on sites which contain mine hazard areas shall meet the following standards:
- a. Alterations. Alterations of a mine hazard area and/or buffer are allowed, as follows:

- (1) All alterations are permitted within a mine hazard area with a low potential for subsidence;
 - (2) Within a mine hazard area with a moderate potential for subsidence, all alterations are permitted subject to a mitigation plan to minimize risk of structural damage, as recommended in the hazard analysis.
 - (3) Within a mine hazard area with a severe potential for subsidence only fences and non-residential structures less than 200 square feet may be permitted.
- b. The division of land in mine hazard areas and associated buffers is subject to the following:
- (1) Land that is located within two hundred (200) feet of a mine hazard area with a severe potential for subsidence may not be subdivided. Land that is located partially within a mine hazard area may be divided provided that each resulting lot has sufficient buildable area that is two hundred (200) feet away from the mine hazard area with a severe potential for subsidence. Land that is located within a mine hazard area with a low or moderate potential for subsidence may be subdivided.
 - (2) Access roads and utilities may be permitted within two hundred (200) feet of a mine hazard area with a moderate or severe potential for subsidence if the County determines that no other feasible alternative exists.
- c. Reclamation Activities. For all reclamation activities, including grading, filling, and stockpile removal, as-built drawings shall be submitted in a format specified by the County.

F. Geologically Hazardous Area Report. Unless specifically exempted by the County, all applications for proposed development activities in or near a geologically hazardous area or buffer shall include a report prepared by an engineer or geologist, licensed in the State of Washington with experience analyzing geologic, hydrologic, and ground water flow systems, and who has experience preparing reports for the relevant type of hazard. The County may provide more detailed guidelines for the preparation of a geologically hazardous area report. At a minimum the report and the accompanying plan sheets should contain the following information:

1. The name and contact information of the Applicant; authorization of the property owner if the owner is not the Applicant; the name, qualifications, and contact information for the primary author(s) of the geologically hazardous

area report; a description of the proposal; identification of all the local, state, and/or federal geologically-related permit(s) required for the project; and a vicinity map for the project.

2. A statement specifying the accuracy of the report and all assumptions made and relied upon.
3. The report shall include a copy of the site plans for the proposal showing:
 - a. The type and extent of geologic hazard areas, any other critical areas, and buffers on, adjacent to, within three hundred (300) feet of, or that are likely to impact the proposal;
 - b. Proposed development, including the location of existing and proposed structures, fill, storage of materials, and drainage facilities, with dimensions indicating distances to the floodplain, if available;
 - c. The topography, in two-foot contours, of the project area and all hazard areas addressed in the report; and
 - d. Clearing limits.
4. The report shall include an assessment of the geologic characteristics of the soils, sediments, and/or rock of the project area and potentially affected adjacent properties, and a review of the site history regarding landslides, erosion, and prior grading. Soils analysis shall be accomplished in accordance with accepted classification systems in use in the region. The assessment shall include, but not be limited to:
 - a. A description of the surface and subsurface geology, hydrology, soils, and vegetation found in the project area and in all hazard areas addressed in the report;
 - b. A detailed overview of the field investigations, published data, and references; data and conclusions from past assessments of the site; and site specific measurements, test, investigations, or studies that support the identification of geologically hazardous areas; and
 - c. A description of the vulnerability of the site to seismic and other geologic events;
5. The report shall contain a hazards analysis including a detailed description of the proposed project, its relationship to the geologic hazard(s), and its potential

impact upon the hazard area, the subject property, and affected adjacent properties.

- a. The report shall make a recommendation for the minimum no-disturbance buffer and minimum building setback from any geologic hazard based upon the geotechnical analysis.
6. When hazard mitigation is required, the mitigation plan shall specifically address how the activity maintains or reduces the pre-existing level of risk to the site and adjacent properties on a long-term basis (equal to or exceeding the projected lifespan of the activity or occupation). Proposed mitigation techniques shall be considered to provide long-term hazard reduction only if they do not require regular maintenance or other actions to maintain their function. Mitigation may also be required to avoid any increase in risk above the pre-existing conditions following abandonment of the activity.
 7. In addition to the requirements listed above, critical area reports for erosion and landslide hazard areas should also include:
 - a. A site plan depicting:
 - (1) The height of slope, slope gradient, the top and toe of the slope, and cross-section of the project area;
 - (2) The location of springs, seeps, or other surface expressions of ground water on or within three hundred (300) feet of the project area or that have potential to be affected by the proposal; and
 - (3) The location and description of surface water runoff features.
 - b. An analysis of the site including:
 - (1) A description of the extent and type of vegetative cover;
 - (2) A description of subsurface conditions based on data from site-specific explorations;
 - (3) Descriptions of surface and ground water conditions, public and private sewage disposal systems, fills and excavations, and all structural improvements;

- (4) An estimate of slope stability and the effect construction and placement of structures will have on the slope over the estimated life of the structure;
 - (5) An estimate of the bluff retreat rate that recognizes and reflects potential catastrophic events such as seismic activity or a one hundred-year storm event;
 - (6) Consideration of the run-out hazard of landslide debris and/or the impacts of landslide run-out on down slope properties.
 - (7) A study of slope stability including an analysis of proposed cuts, fills, and other site grading;
 - (8) Recommendations for building siting limitations; and
 - (9) An analysis of proposed surface and subsurface drainage, and the vulnerability of the site to erosion.
- c. A geotechnical engineering report prepared by a licensed engineer that presents engineering recommendations for the following:
- (1) Parameters for design of site improvements including appropriate foundations and retaining structures. These should include allowable load and resistance capacities for bearing and lateral loads, installation considerations, and estimates of settlement performance;
 - (2) Recommendations for drainage and sub-drainage improvements;
 - (3) Earthwork recommendations including clearing and site preparation criteria, fill placement and compaction criteria, temporary and permanent slope inclinations and protection, and temporary excavation support, if necessary;
 - (4) A description of reasonable efforts made to apply the required mitigation sequencing to avoid, minimize, and mitigate impacts to critical areas; and
 - (5) A description of proposed compensatory mitigation measures, if any, to mitigate adverse site impacts that cannot be avoided through mitigation sequencing.

- d. For any development proposal on a site containing an erosion hazard area, an erosion and sediment control plan shall be required. The erosion and sediment control plan shall conform to the requirements of the Washington State Department of Ecology Stormwater Management Manual for Eastern Washington as adopted by Pend Oreille County, or alternative measures that meet or exceed these standards as determined by the County;
 - e. The technical information shall include a drainage plan for the collection, transport, treatment, discharge, and/or recycle of water prepared in accordance with the Washington State Department of Ecology Stormwater Management Manual for Eastern Washington as adopted by Pend Oreille County, or alternative measures that meet or exceed these standards as determined by the County. The drainage plan should consider on-site septic system disposal volumes where the additional volume will affect the erosion or landslide hazard area;
 - f. Hazard and environmental mitigation plans for erosion and landslide hazard areas shall include the location and methods of drainage, surface water management, locations and methods of erosion control, a vegetation management and/or replanting plan, and/or other means for maintaining long-term soil stability; and
 - g. If the County determines that there is a significant risk of damage to downstream receiving waters due to potential erosion from the site, based on the size of the project, the proximity to the receiving waters, or the sensitivity of the receiving waters, the technical information shall include a plan to monitor the surface water discharge from the site. The monitoring plan shall include a recommended schedule for submitting monitoring reports to the County.
8. In addition to the requirements listed above, critical area reports for seismic hazard areas shall also include:
- a. On the site map all known and mapped faults within two hundred (200) feet of the project area or that have potential to be affected by the proposal;
 - b. In the analysis a complete discussion of the potential impacts of seismic activity on the site (for example, forces generated and fault displacement); and
 - c. A geotechnical engineering report shall evaluate the physical properties of the subsurface soils, especially the thickness of unconsolidated deposits and their liquefaction potential. If it is determined that the site is subject to

liquefaction, mitigation measures appropriate to the scale of the development shall be recommended and implemented.

9. In addition to the requirements listed above, critical area reports for mine hazard areas shall also include:
 - a. On the site plan site plan the delineation of any of the following features found within three hundred (300) feet of or directly underlying the project area, or that have potential to be affected by the proposal:
 - (1) The existence of mines, including all significant mine features, such as mine entries, portals, adits, mine shafts, air shafts, and timber shafts;
 - (2) The location of any nearby mines that may impact or be affected by the proposed activities;
 - (3) The location of any known sinkholes, significant surface depressions, trough subsidence features, coal mine spoil piles, and other mine-related surface features; and
 - (4) The location of any prior site improvements that have been carried out to mitigate abandoned coal mine features; and
 - b. A discussion of the potential for subsidence on the site and classify all mine hazards areas within three hundred (300) feet of the project area, or that have potential to be affected by the proposal, as either low, moderate, or severe. The hazards analysis shall include a mitigation plan containing recommendations for mitigation of the potential for future trough subsidence, as appropriate, for the specific proposed alteration and recommendations for additional study, reports, and development standards if warranted.

xx.36.060 Fish and Wildlife Habitat Conservation Areas.

- A. Areas within the County meeting one or more of the following criteria, may be designated as Fish and Wildlife Habitat Conservation Areas, subject to the provisions of this Chapter, and shall be managed consistent with the principles of best available science, such as the *Washington State Department of Fish and Wildlife's Management Recommendations for Priority Habitat and Species*.
 1. Areas with which State and Federally Designated Endangered, Threatened, and Sensitive Species have a primary association.

- a. Federally designated endangered and threatened species are those fish and wildlife species identified by the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service that are in danger of extinction or threatened to become endangered.
 - b. State designated endangered, threatened, and sensitive species are those fish and wildlife species native to the state of Washington identified by the Washington Department of Fish and Wildlife, that are in danger of extinction, threatened to become endangered, vulnerable, or declining and are likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats.
 - c. Habitats of Primary Association: “Habitats of primary association” means a critical component(s) of the habitats of federally or state-listed endangered, threatened, candidate, sensitive, and priority wildlife or plant species, which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. Habitats of primary association include, but are not limited to: winter ranges, migration ranges, corridors, breeding sites, nesting sites, regular large concentrations, communal roosts, roosting sites, staging area, and “priority habitats” listed by the Washington State Department of Fish and Wildlife.
2. Priority habitats and species as identified by the Washington State Department of Fish and Wildlife, and as subsequently amended.
 3. Habitats and species designated by the County as being of local importance and warranting protection, based on the provisions of Best Available Science.
 4. Natural area preserves and natural resource conservation areas as defined, established, and managed by the Washington State Department of Natural Resources.
 5. Areas of rare plant species and high quality ecosystems as identified by the Washington State Department of Natural Resources through the Natural Heritage Program.
 6. Naturally occurring ponds under twenty (20) acres and their submerged aquatic beds that provide fish and wildlife habitat;
 7. Land identified by the County as being essential for the preservation of connections between habitat areas and open spaces.

B. The following fish and wildlife habitat areas shall be considered priority habitat areas in Pend Oreille County and shall be afforded the highest level of protection:

1. Areas with which State and Federally Designated Endangered, Threatened, and Sensitive Species have a primary association.
2. Natural area preserves and natural resource conservation areas as defined, established, and managed by the Washington State Department of Natural Resources.
3. Areas of rare plant species and high quality ecosystems as identified by the Washington State Department of Natural Resources through the Natural Heritage Program.

C. While the County may maintain maps that highlight the potential location of fish and wildlife habitat conservation areas it shall be the responsibility of the property owner and project sponsor to identify all fish and wildlife habitat conservation areas on their property and to comply with the provisions of this Chapter at all times.

1. Note: Information regarding Priority Habitat and Species in Pend Oreille County may be found on the Washington State Department of Fish and Wildlife website.

D. General Performance Standards.

1. It should be noted that properties that contain fish and wildlife habitat conservation areas may contain other environmentally sensitive areas and as a result, more than one critical areas report may need to be prepared.
2. Development activities proposed for properties that contain fish and wildlife habitat conservation areas may also be under the jurisdiction of state and federal agencies and as a result, numerous permits and approvals may be required. As a result, Project Sponsors are strongly encouraged to schedule a pre-application conference with County Staff to discuss potential permitting requirements and opportunities for integrating and streamlining the development review process.
3. Proposed development activities in or near fish and wildlife habitat conservation areas should follow the required mitigation sequencing outlined in XX.36.030 General Provisions, Mitigation Sequencing to avoid or minimize potential adverse impacts before considering any action that may require mitigation.

4. A fish and wildlife habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat. All new structures and land alterations shall be prohibited from fish and wildlife habitat conservation areas, unless specifically authorized by the County.
 - a. Any proposed alterations or impacts to a fish and wildlife habitat conservation area should be supported by the principles of best available science.
5. No plant, wildlife, or fish species not indigenous to the region shall be introduced into a fish and wildlife habitat conservation area unless authorized by a state and/or federal permit or approval.
6. The County may deny, restrict, or condition approvals of a proposed use or development activity within or adjacent to a fish and wildlife habitat conservation area or its buffers, as necessary to minimize or mitigate any potential adverse impacts. Conditions shall be based on the principles of best available science and may include, but are not limited to, the following:
 - a. Establishment of buffer zones;
 - b. Preservation of critically important vegetation and/or priority habitat features such as snags and downed wood;
 - c. Limitation of access to the habitat area, including fencing to deter unauthorized access;
 - d. Seasonal restriction of construction activities to protect priority fish and wildlife species;
 - e. Establishment of a duration and timetable for periodic review of mitigation activities; and
 - f. Requirement of a performance bond, when necessary, to ensure completion and success of proposed mitigation.
7. Mitigation of alterations to fish and wildlife habitat conservation areas shall achieve equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse off-site impacts. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis.

8. The County may require the establishment of buffer areas for activities adjacent to fish and wildlife habitat conservation areas when needed to protect habitat conservation areas. Buffers shall consist of an undisturbed area of native vegetation or areas identified for restoration established to protect the integrity, functions, and values of the affected habitat.
 - a. Required buffer widths shall reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby and shall be consistent with the management recommendations issued by the Washington Department of Fish and Wildlife.
 - b. Fish and wildlife habitat conservation areas and their buffers should be preserved in perpetuity through the use of native growth protection areas, critical area tracts, or comparable methods as approved by the County.
9. When a species is more susceptible to adverse impacts during specific periods of the year, seasonal restrictions may apply. Larger buffers may be required and activities may be further restricted during the specified season.
10. The County may reduce fish and wildlife habitat area buffers in accordance with the provisions of the critical area report, the principles of best available science, and applicable management recommendations issued by the Washington Department of Fish and Wildlife, if:
 - a. It will not reduce stream or habitat functions;
 - b. It will not adversely affect fish habitat;
 - c. It will provide additional natural resource protection, such as buffer enhancement;
 - d. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer.
11. The subdivision and short subdivision of land in fish and wildlife habitat conservation areas and associated buffers is subject to the following:
 - a. Land that is located wholly within a habitat conservation area or its buffer should not be subdivided;
 - b. Land that is located partially within a habitat conservation area or its buffer may be divided provided that the developable portion of each new lot and its access is located outside of the habitat conservation area or its buffer and

meets the minimum lot size requirements and all applicable provisions of the applicable development regulations.

- c. Access roads and utilities serving the proposed subdivision may be permitted within the habitat conservation area and associated buffers only if the County determines that no other feasible alternative exists and when consistent with this Title
12. The outer perimeter of the fish and wildlife habitat conservation area or buffer and the limits of those areas to be disturbed pursuant to an approved permit or authorization shall be marked in the field in such a way as to ensure that no unauthorized intrusion will occur and verified by the County prior to the commencement of permitted activities. This temporary marking shall be maintained throughout construction and shall not be removed until permanent signs, if required, are in place.
 13. As a condition of any permit or authorization issued pursuant to this Chapter, the County may require the Applicant to install permanent signs along the boundary of a fish and wildlife habitat conservation area or buffer.
 - a. Signs should be designed, and installed in a manner to assure protection of sensitive features or wildlife and shall be subject to County approval.
 - b. Signs shall be maintained by the property owner unless otherwise approved by the County.
 14. The County may require as a condition of approval of any permit or authorization issued pursuant to this Chapter to require the Applicant to install a permanent fence at the edge of the fish and wildlife habitat conservation area or buffer, when fencing will prevent future impacts to the habitat conservation area.
 - a. The Applicant should be required to install a permanent fence around the habitat conservation area or buffer when domestic grazing animals are present or may be introduced on site.
 - b. Fencing installed as part of a proposed activity or as required in this Subsection shall be design so as to not interfere with species migration, including fish runs, and shall be constructed in a manner that minimizes habitat impacts and shall be subject to County approval.

E. Habitat Specific Performance Standards. In addition to the general performance standards listed above, the following habitat specific performance standards may also apply, as determined by the County.

1. No development shall be allowed within a fish and wildlife habitat conservation area or buffer with which state or federally endangered, threatened, or sensitive species have a primary association, except that which is provided for by a management plan established by the Washington Department of Fish and Wildlife or applicable state or federal agency.
 - a. Whenever activities are proposed adjacent to a fish and wildlife habitat conservation area with which state or federally endangered, threatened, or sensitive species have a primary association, such area shall be protected through the application of protection measures in accordance with a critical area report prepared by a qualified professional and approved by the County. Approval for alteration of land adjacent to the fish and wildlife habitat conservation area or its buffer shall not occur prior to consultation with the Washington Department of Fish and Wildlife for animal species, the Washington State Department of Natural Resources for plant species, and other appropriate federal or state agencies.
 - b. Project Sponsors are encouraged to contact the U. S. Fish and Wildlife Service and/or the Washington State Department of Fish and Wildlife to determine what, if any, state or local laws protecting Bald or Golden Eagles may be applicable to their proposed development.
2. All activities, uses, and alterations proposed to be located in water bodies used by fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of fish habitat, including, but not limited to, adhering to the following standards:
 - a. Activities shall be timed to occur only during the allowable work window as designated by the Washington Department of Fish and Wildlife for the applicable species;
 - b. An alternative alignment or location for the activity is not feasible;
 - c. The activity is designed so that it will not degrade the functions or values of the fish habitat or other critical areas;
 - d. Shoreline erosion control measures shall be designed to use bioengineering methods or soft armoring techniques, according to an approved critical area report, and

- e. Any impacts to the functions or values of the habitat conservation area are mitigated in accordance with an approved critical area report.
3. Fills, if otherwise permitted by the County Development Regulations including XX.34 Shoreline Regulations, shall not adversely impact fish or their habitat or shall mitigate any unavoidable impacts and shall only be allowed for a water-dependent use.
4. Unless specifically authorized by the County, all structures and activities shall be located outside of designated riparian habitat areas and required riparian buffers.
 - a. Riparian habitat areas shall be established for habitats that include aquatic and terrestrial ecosystems that mutually benefit each other and that are located adjacent to rivers, perennial or intermittent streams, seeps, and springs
 - b. Riparian Habitat Area widths shall be measured outward in each direction, on the horizontal plane, from the ordinary high-water mark, or from the top of bank, if the ordinary high-water mark cannot be identified. Riparian habitat areas should be sufficiently wide to achieve the full range of riparian and aquatic ecosystem functions, which include but are not limited to protection of in-stream fish habitat through control of temperature and sedimentation in streams; preservation of fish and wildlife habitat; and connection of riparian wildlife habitat to other habitats.
 - c. Riparian habitat areas should retain their natural vegetative condition unless specifically authorized by the County.
5. Unless otherwise approved by the County, the recommended widths of Riparian Habitat Areas shall be as follows:
 - a. Type S (Shorelines of the State): (See xx.34 Shoreline Regulations, Required Buffers);
 - b. Type F (Fish Bearing): 150 feet;
 - c. Type NP (Non-fish bearing-perennial): 100 feet;
 - d. Type NS (Non-fish bearing-seasonal): 65 feet; and
 - e. Type U (Unknown, not typed): Must be evaluated with proposed type and Riparian Habitat Area width included in any development application.

6. The recommended riparian habitat area widths may be increased by the County, as follows:
 - a. Based on a finding that the recommended width is insufficient to prevent habitat degradation and to protect the structure and functions of the habitat area;
 - b. When the frequently flooded area exceeds the recommended riparian habitat area width, the riparian habitat area shall extend to the outer edge of the frequently flooded area;
 - c. When a channel migration zone is present and mapped, the riparian habitat area width shall be measured from the outer edge of the channel migration zone;
 - d. When the habitat area is in an area of high blow down potential, the riparian habitat area width shall be expanded an additional fifty (50) feet on the windward side; and/or
 - e. When the habitat area is within an erosion or landslide hazard area, or buffer, the riparian habitat area width shall be the recommended distance, or the erosion or landslide hazard area or buffer, whichever is greater.
7. The recommended riparian habitat area width may be reduced by the County in accordance with the recommendations of a critical area report only if:
 - a. The width reduction will not reduce stream or habitat functions, including those of non-fish habitat;
 - b. The width reduction will not degrade the habitat, including habitat for anadromous fish;
 - c. The proposal will provide additional habitat protection;
 - d. The total area contained in the riparian habitat area of each stream on the development proposal site is not decreased;
 - e. The width reduction will not be located within another critical area or associated buffer; and
 - f. The reduced riparian habitat area width is supported by the best available science.

8. Mitigation of adverse impacts to riparian habitat areas shall result in equivalent functions and values on a per function basis, be located as near the alteration as feasible, and be located in the same sub-drainage basin as the habitat impacted.
9. The performance standards set forth in this Subsection may be modified at the County's discretion if the applicant demonstrates that greater habitat functions, on a per function basis, can be obtained in the affected sub-drainage basin as a result of alternative mitigation measures.
10. The following specific activities may be permitted within a riparian habitat area, when the activity complies with the applicable provisions set forth in XX.34 Shoreline Regulations and the standards of this Subsection. The standards that provide the most protection to protected habitat and species shall apply.
 - a. When clearing and grading is permitted as part of an authorized activity or as otherwise allowed in these standards, the following should apply:
 - (1) Grading is allowed only during the dry season, which is typically regarded as beginning on May 1 and ending on October 1 of each year, provided that the County may extend or shorten the dry season on a case-by-case basis, determined on actual weather conditions.
 - (2) Filling or modification of a wetland or wetland buffer is permitted only if it is conducted as part of an approved wetland alteration.
 - (3) The soil duff layer shall remain undisturbed to the maximum extent possible. Where feasible, any soil disturbed shall be redistributed to other areas of the project area.
 - (4) The moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all areas of the project area not covered by impervious surfaces.
 - (5) Erosion and sediment control that meets or exceeds the County standards shall be provided.
 - b. New, replacement, or substantially improved shoreline erosion control measures may be permitted in accordance with an approved critical area report that demonstrates the following:

- (1) Natural shoreline processes will be maintained.
 - (2) The shoreline erosion control measures will not degrade fish or wildlife habitat conservation areas or associated wetlands.
 - (3) Adequate mitigation measures ensure that there is no net loss of the functions or values of in-stream habitat or riparian habitat as a result of the proposed shoreline erosion control measures.
- c. Streambank stabilization to protect new structures from future channel migration is not permitted except when such stabilization is achieved through bioengineering or soft armoring techniques in accordance with an approved critical area report.
- d. New public boat launches that meet the applicable provisions of XX.34 Shoreline Regulations may be permitted in accordance with an approved critical area report that has demonstrated the following:
- (1) The project will not result in increased beach erosion or alterations to, or loss of, shoreline substrate;
 - (2) The ramp will not adversely impact critical fish or wildlife habitat areas or associated wetlands;
 - (3) Adequate mitigation measures ensure that there is no net loss of the functions or values of in-stream habitat or riparian habitat as a result of the ramp; and
- e. Repair and maintenance of an existing dock or pier that otherwise meet all of the applicable provisions of XX.34 Shoreline Regulations may be permitted in accordance with an approved critical area report subject to the following:
- (1) There is no increase in the use of materials creating shade for predator species;
 - (2) There is no expansion in overwater coverage;
 - (3) There is no new spanning of waters between three (3) and thirteen (13) feet deep;
 - (4) There is no increase in the size and number of pilings; and

- (5) There is no use of toxic materials (such as creosote) that come in contact with the water.
- f. Construction of trails may be permitted in accordance with an approved critical area report subject to the following standards:
 - (1) There is no other feasible alternative route with less impact on the environment;
 - (2) Trails shall be located on the outer edge of the riparian area or buffer, except for limited viewing platforms and crossings;
 - (3) Trails and associated viewing platforms shall not be made of continuous impervious materials; and
 - (4) Mitigation for impacts is provided pursuant to a mitigation plan of an approved critical area report;
- g. Construction of roadways and minor road bridging, may be permitted in accordance with an approved critical area report subject to the following standards:
 - (1) There is no other feasible alternative route with less impact on the environment;
 - (2) The crossing minimizes interruption of downstream movement of wood and gravel;
 - (3) Roads in riparian habitat areas or their buffers shall not run parallel to the water body;
 - (4) Crossings, where necessary, shall only occur as near to perpendicular with the water body as possible;
 - (5) Road bridges and culverts are designed and installed according to the Washington Department of Fish and Wildlife Fish Passage Design at Road Culverts, 1999, or as subsequently amended.
 - (6) Mitigation for impacts is provided pursuant to a mitigation plan of an approved critical area report; and

- h. New utility lines and facilities may be permitted to cross watercourses in accordance with an approved critical area report, if they comply with the following standards:
 - (1) Fish and wildlife habitat areas shall be avoided to the maximum extent possible;
 - (2) Installation shall be accomplished by boring beneath the scour depth and hyporheic zone of the water body and channel migration zone, where feasible;
 - (3) The utilities shall cross at an angle greater than sixty (60) degrees to the centerline of the channel in streams or perpendicular to the channel centerline whenever boring under the channel is not feasible;
 - (4) Crossings shall be contained within the footprint of an existing road or utility crossing where possible;
 - (5) The utility route shall avoid paralleling the stream or following a down-valley course near the channel; and
 - (6) The utility installation shall not increase or decrease the natural rate of shore migration or channel migration.
- i. New public flood protection measures and expansion of existing ones may be permitted, subject to the County's review and approval of a critical area report and the approval of a Federal Biological Assessment by the federal agency responsible for reviewing actions related to a federally listed species.
- j. In-stream structures, such as, but not limited to, high flow bypasses, sediment ponds, in-stream ponds, retention and detention facilities, dams, and weirs, shall only be allowed in conformance with applicable provisions of Chapter 90.58 and XX.34 Shoreline Regulations, and upon acquisition of any required local, state, and federal permits.
- k. Conveyance structures may be permitted in accordance with an approved critical area report subject to the following standards:
 - (1) No other feasible alternatives with less impact exist;
 - (2) Mitigation for impacts is provided;

- (3) Stormwater conveyance facilities shall incorporate fish habitat features; and
 - (4) Vegetation shall be maintained and, if necessary, added adjacent to all open channels and ponds in order to retard erosion, filter out sediments, and shade the water.
- l. New on-site sewage systems and individual wells may be permitted in accordance with an approved critical area report only if accessory to an approved residential structure, for which it is not feasible to connect to a public sanitary sewer system.
 - m. Repairs to failing on-site sewage systems associated with an existing structure shall be accomplished by utilizing one of the following methods that result in the least impact:
 - (1) Connection to an available public sanitary sewer system;
 - (2) Replacement with a new on-site sewage system located in a portion of the site that has already been disturbed by development and is located landward as far as possible, provided the proposed sewage system is in compliance with the [local health district]; or
 - (3) Repair to the existing on-site septic system.

F. Fish and Wildlife Habitat Conservation Areas Report. Unless specifically exempted by the County, all applications for proposed development activities in or near a priority fish and wildlife habitat conservation area shall include a critical areas report prepared by a qualified professional, as determined by the County. The County may provide more detailed guidelines for the preparation of a wetlands report. At a minimum a critical areas report for a fish and wildlife habitat conservation area and accompanying plan sheets should contain the following information:

- 1. A description of the proposed development activity and a map(s) highlighting:
 - a. The project area of the proposed activity;
 - b. All habitat conservation areas and recommended buffers within three hundred (300) feet of the project area; and
 - c. All shoreline areas, floodplains, other critical areas, and related buffers within three hundred (300) feet of the project area.

2. An assessment of the habitat area(s) evaluating the presence or absence of designated critical fish or wildlife species or habitat. This assessment shall also include:
 - a. A detailed description of vegetation on and adjacent to the project area, along with details from field assessment regarding presence/absence of fish, wildlife and habitats. Methods for conducting field work, date work conducted and field methods should also be characterized along with credentials of those completing the assessment;
 - b. Identification of any species of local importance, priority species, or endangered, threatened, sensitive, or candidate species that have a primary association with habitat on or adjacent to the project area, and assessment of potential project impacts to the use of the site by the species;
 - c. A discussion of any federal, state, or local special management recommendations, including Washington Department of Fish and Wildlife management recommendations, as amended, that have been developed for species or habitats located on or adjacent to the project area;
 - d. A detailed discussion of the direct and indirect potential benefits and impacts on habitat by the project, including potential impacts to water quality;
 - e. A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing habitats and restore any habitat that was degraded prior to the current proposed land use activity and to be conducted in accordance with the Mitigation Sequencing requirements of this Chapter, XX.36.030 A; and
 - f. A discussion of ongoing management practices that will protect habitat after the project site has been developed, including proposed monitoring and maintenance programs.
3. In addition, the County may also require:
 - a. Detailed surface and subsurface hydrologic features both on and adjacent to the site.
 - b. An evaluation by an independent qualified professional regarding the Applicant's analysis and the effectiveness of any proposed mitigating measures or programs, to include any recommendations as appropriate; and/or

- c. That the Applicant consults with the Washington Department of Fish and Wildlife, the Kalispel Tribe, and/or other appropriate agencies prior to preparing and submitting the report.

xx.36.070 Frequently Flooded Areas

- A. Applicability. This Section shall apply to all areas of Special Flood Hazard within the jurisdiction of Pend Oreille County.

- B. Statement of Purpose - It is the purpose of this code to promote the public health, safety, and general welfare; reduce the annual cost of flood insurance; and minimize public and private losses due to flood conditions in specific areas by provisions designed to:
 - 1. Protect human life and health;
 - 2. Minimize expenditure of public money for costly flood control projects;
 - 3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
 - 4. Minimize prolonged business interruptions;
 - 5. Minimize damage to public facilities and utilities, such as water and gas mains; electric, telephone, and sewer lines; and streets and bridges located in flood hazard areas
 - 6. Help maintain a stable tax base by providing for the sound use and development of flood hazard areas so as to minimize blight areas caused by flooding;
 - 7. Notify potential buyers that the property is in a Special Flood Hazard Area;
 - 8. Notify those who occupy flood hazard areas that they assume responsibility for their actions; and
 - 9. Participate in and maintain eligibility for flood insurance and disaster relief.

- C. Methods of Reducing Flood Losses - In order to accomplish its purposes, methods and provisions are provided for:

1. Restricting or prohibiting development that is dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
2. Requiring that development vulnerable to floods be protected against flood damage at the time of initial construction;
3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
4. Controlling filling, grading, dredging, and other development, which may increase flood damage; and
5. Preventing or regulating the construction of flood barriers that unnaturally divert floodwaters or may increase flood hazards in other areas.

D. Definitions

1. Alteration of watercourse: Any action that will change the location of the channel occupied by water within the banks of any portion of a riverine waterbody.
2. Area of shallow flooding: A designated zone AO, AH, AR/AO or AR/AH (or VO) on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow. Also referred to as the sheet flow area.
3. Area of special flood hazard: The land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. It is shown on the Flood Insurance Rate Map (FIRM) as zone A, AO, AH, A1-30, AE, A99, AR (V, VO, V1-30, VE). "Special flood hazard area" is synonymous in meaning with the phrase "area of special flood hazard".
4. Base flood: The flood having a 1% chance of being equaled or exceeded in any given year (also referred to as the "100-year flood").
5. Base Flood Elevation (BFE): The elevation to which floodwater is anticipated to rise during the base flood.

6. Basement: Any area of the building having its floor sub-grade (below ground level) on all sides.
7. Critical Facility: A facility for which even a slight chance of flooding might be too great. Critical facilities include (but are not limited to) schools, nursing homes, hospitals, police, fire and emergency response installations, and installations which produce, use, or store hazardous materials or hazardous waste.
8. Development: Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard.
9. Flood or Flooding:
 - a. A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - The overflow of inland or tidal waters.
 - The unusual and rapid accumulation or runoff of surface waters from any source.
 - Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (1)(b) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
 - b. The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (1)(a) of this definition.
10. Flood elevation study: An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards. Also known as a Flood Insurance Study (FIS)

11. Flood Insurance Rate Map (FIRM): The official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).
12. Floodplain or flood-prone area: Any land area susceptible to being inundated by water from any source. See "Flood or flooding."
13. Floodplain administrator: The community official designated by title to administer and enforce the floodplain management regulations.
14. Flood proofing: Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents. Flood proofed structures are those that have the structural integrity and design to be impervious to floodwater below the Base Flood Elevation.
15. Floodway: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Also referred to as "Regulatory Floodway."
16. Functionally dependent use: A use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long-term storage or related manufacturing facilities.
17. Highest adjacent grade: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
18. Historic structure: Any structure that is:
 - a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
 - b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered

historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

- c. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
- d. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - By an approved state program as determined by the Secretary of the Interior, or
 - Directly by the Secretary of the Interior in states without approved programs.

19. **Lowest Floor:** The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements (i.e. provided there are adequate flood ventilation openings).

20. **Mean Sea Level:** For purposes of the National Flood Insurance Program, the vertical datum to which Base Flood Elevations shown on a community's Flood Insurance Rate Map are referenced.

21. **Recreational Vehicle:** A vehicle,
- a. Built on a single chassis
 - b. 400 square feet or less when measured at the largest horizontal projection
 - c. Designed to be self-propelled or permanently towable by a light duty truck
 - d. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

22. **Start of construction:** Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation.

Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

23. Structure: For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

24. Substantial Damage: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

25. Substantial improvement: Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

- a. Any project for improvement of a structure to correct previously identified existing violations of state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and that are the minimum necessary to assure safe living conditions; or
- b. Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

26. Variance: A grant of relief by a community from the terms of a floodplain management regulation.

27. Water surface elevation: The height, in relation to the vertical datum utilized in the applicable flood insurance study of floods of various magnitudes and frequencies in the floodplains of riverine areas.

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E. General Provisions

1. Lands to Which This code Applies - This code shall apply to all special flood hazard areas within the boundaries of Pend Oreille County.
2. Basis for Establishing the Areas of Special Flood Hazard - The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled “The Flood Insurance Study - Pend Oreille County, Washington and Incorporated Areas”, dated March 4, 2002, and any revisions thereto, with an accompanying Flood Insurance Rate Map (FIRM), and any revisions thereto, are hereby adopted by reference.
3. The Flood Insurance Study and the FIRM are on file at the County Courthouse.
4. The best available information for flood hazard area identification as outlined in Section xx.36.070 F.5 shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under Section xx.36.070 F.5.
5. Compliance - All development within special flood hazard areas is subject to the terms and other applicable regulations.
6. Penalties For Noncompliance - No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms and other applicable regulations. Violations of the provisions by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions), shall constitute a misdemeanor. Any person who violates this code or fails to comply with any of its requirements shall upon conviction thereof be fined not more than _____ or imprisoned for not more than ___ days, or both, for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the _____ from taking such other lawful action as is necessary to prevent or remedy any violation.
7. Abrogation and Greater Restrictions -This code is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this code and another code, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
8. Warning And Disclaimer of Liability - The degree of flood protection required by this code is considered reasonable for regulatory purposes and

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is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This code does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This code shall not create liability on the part of Pend Oreille County, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this code or any administrative decision lawfully made hereunder.

9. Severability - This code and the various parts thereof are hereby declared to be severable. Should any Section be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the code as a whole, or any portion thereof other than the Section so declared to be unconstitutional or invalid.

F. Administration

1. Development Permit Required - A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section xx.36.070 E.2. The permit shall be for all structures including manufactured homes, as set forth in the "Definitions," and for all development including fill and other activities, also as set forth in the "Definitions."
2. Application for Development Permit - Application for a development permit shall be made on forms furnished by the Floodplain Administrator and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:
 - a. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures recorded on a current elevation certificate completed by the Floodplain Administrator.
 - b. Elevation in relation to mean sea level to which any structure has been floodproofed;
 - c. Where a structure is to be floodproofed, certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet floodproofing criteria in Section xx.36.070 G.2.b;
 - d. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development;
 - e. Where a structure is proposed in a V, V1-30, or VE zone, a V-zone design certificate;
 - f. Where development is proposed in a floodway, an engineering analysis indication no rise of the Base Flood Elevation, and

- g. Any other such information that may be reasonably required by the Floodplain Administrator in order to review the application.
3. Designation of the Floodplain Administrator - The Community Development Director is hereby appointed to administer, implement, and enforce this code by granting or denying development permits in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.
4. Duties & Responsibilities of the Floodplain Administrator - Duties shall include, but not be limited to:
- a. Review all development permits to determine that:
- The permit requirements have been satisfied;
 - All other required state and federal permits have been obtained;
 - The site is reasonably safe from flooding;
 - The proposed development is not located in the floodway. If located in the floodway, assure the encroachment provisions of Section xx.36.070 G.1.a are met;
 - Notify FEMA when annexations occur in the Special Flood Hazard Area.
5. Use of Other Base Flood Data (In A and V Zones) - When base flood elevation data has not been provided (in A or V zones) in accordance with Section E.2, Basis for Establishing the Areas of Special Flood Hazard, the Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source, in order to administer Sections G.2, Specific Standards, and G.4 Floodways
6. Information to be Obtained and Maintained
- a. Where base flood elevation data is provided through the FIS, FIRM, or required as in Section F.3-2, obtain and maintain a record of the actual (as-built) elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
- b. Obtain and maintain documentation of the elevation of the bottom of the lowest horizontal structural member in V or VE zones.
- c. For all new or substantially improved floodproofed nonresidential structures where base flood elevation data is provided through the FIS, FIRM, or as required in Section F.3-2:

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- Obtain and maintain a record of the elevation (in relation to mean sea level) to which the structure was floodproofed.
 - Maintain the floodproofing certifications required in Section F.1-2(3).
 - d. Certification required by Section G.4.1 {or the numbering system used by the community} (floodway encroachments).
 - e. Records of all variance actions, including justification for their issuance.
 - f. Improvement and damage calculations.
 - g. Maintain for public inspection all records pertaining to the provisions.
7. Alteration of Watercourse - Whenever a watercourse is to be altered or relocated:
- a. Notify adjacent communities and the Department of Ecology prior to such alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administrator through appropriate notification means.
 - b. Assure that the flood carrying capacity of the altered or relocated portion of said watercourse is maintained.
8. Interpretation of FIRM Boundaries - Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (e.g. where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the NFIP
9. Review of Building Permits - Where elevation data is not available either through the FIS, FIRM, or from another authoritative source (Section F.3-2), applications for floodplain development shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. (Failure to elevate habitable buildings at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.)
10. Changes to Special Flood Hazard Area

- a. If a project will alter the BFE or boundaries of the SFHA, then the project proponent shall provide the community with engineering documentation and analysis regarding the proposed change. If the change to the BFE or boundaries of the SFHA would normally require a Letter of Map Change, then the project proponent shall initiate, and receive approval of, a Conditional Letter of Map Revision (CLOMR) prior to approval of the development permit. The project shall be constructed in a manner consistent with the approved CLOMR.
- b. If a CLOMR application is made, then the project proponent shall also supply the full CLOMR documentation package to the Floodplain Administrator to be attached to the floodplain development permit, including all required property owner notifications.

G. Provisions for Flood Hazard Reduction

1. General Standards - In all areas of special flood hazards, the following standards are required:

- a. Anchoring
 - All new construction and substantial improvements, including those related to manufactured homes, shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads including the effects of buoyancy.
 - All manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. For more detailed information, refer to guidebook, FEMA-85, "Manufactured Home Installation in Flood Hazard Areas."
- b. Construction Materials and Methods
 - All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

- All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
 - Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- c. Storage of Materials and Equipment
- The storage or processing of materials that could be injurious to human, animal, or plant life if released due to damage from flooding is prohibited in special flood hazard areas (recommended).
 - Storage of other material or equipment may be allowed if not subject to damage by floods and if firmly anchored to prevent flotation, or if readily removable from the area within the time available after flood warning.
- d. Utilities
- All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;
 - Water wells shall be located on high ground that is not in the floodway (WAC 173-160-171);
 - New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
 - Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- e. Subdivision Proposals and Development
- All subdivisions, as well as new development shall:
 - Be consistent with the need to minimize flood damage;
 - Have public utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage;
 - Have adequate drainage provided to reduce exposure to flood damage.

- Where subdivision proposals and other proposed developments contain greater than 50 lots or 5 acres (whichever is the lesser) base flood elevation data shall be included as part of the application.

2. Specific Standards - In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section E.2, Basis for Establishing the Areas of Special Flood Hazard, or Section F.3-2, Use of Other Base Flood Data. The following provisions are required:

a. Residential Construction

- In AE and A1-30 zones or other A zoned areas where the BFE has been determined or can be reasonably obtained, new construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated one foot or more above the BFE. Mechanical equipment and utilities shall be waterproof or elevated least one foot above the BFE.
- New construction and substantial improvement of any residential structure in an AO zone shall meet the requirements in Appendix A.
- New construction and substantial improvement of any residential structure in an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained shall be reasonably safe from flooding, but in all cases the lowest floor shall be at least two feet above the Highest Adjacent Grade.
- New construction and substantial improvement of any residential structure in a V, V1-30, or VE zone shall meet the requirements in Appendix B.
- Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs must meet or exceed the following minimum criteria:
 - Have a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding.
 - The bottom of all openings shall be no higher than one foot above grade.
 - Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that

they permit the automatic entry and exit of floodwater.

- A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of flood waters.

Alternatively, a registered engineer or architect may design and certify engineered openings.

b. Nonresidential Construction - New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet the requirements below:

- New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet all of the following requirements:

- In AE and A1-30 zones or other A zoned areas where the BFE has been determined or can be reasonably obtained:

New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall have the lowest floor, including basement, elevated one foot or more above the BFE, or elevated as required by ASCE 24, whichever is greater. Mechanical equipment and utilities shall be waterproofed or elevated least one foot above the BFE, or as required by ASCE 24, whichever is greater.

- If located in an AO zone, the structure shall meet the requirements in Appendix A.
- If located in an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained, the structure shall be reasonably safe from flooding, but in all cases the lowest floor shall be at least two feet above the Highest Adjacent Grade.
- If located in a V, V1-30, or VE zone, the structure shall meet the requirements in Appendix B.
- Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be

designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

- Have a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding.
- The bottom of all openings shall be no higher than one foot above grade.
- Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater.
- A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of flood waters.

Alternatively, a registered engineer or architect may design and certify engineered openings.

- If the requirements of subsection 1 are not met, then new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet all of the following requirements:
 - Be dry floodproofed so that below one foot or more above the base flood level the structure is watertight with walls substantially impermeable to the passage of water or dry floodproofed to the elevation required by ASCE 24, whichever is greater;
 - Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
 - Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and

plans. Such certifications shall be provided to the official as set forth in Section F.3-3(2);

- Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in G.2-1(5);

Note: Applicants who are floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g. a building floodproofed to the base flood level will be rated as one foot below). Floodproofing the building an additional foot will reduce insurance premiums significantly.

- c. **Manufactured Homes** - All manufactured homes to be placed or substantially improved on sites shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated one foot or more above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement
- d. **Recreational Vehicles** - Recreational vehicles placed on sites are required to either:
 - Be on the site for fewer than 180 consecutive days, or
 - Be fully licensed and ready for highway use, on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
 - Meet the requirements of 2.c above.
- e. **Enclosed Area Below the Lowest Floor** - If buildings or manufactured homes are constructed or substantially improved with fully enclosed areas below the lowest floor, the areas shall be used solely for parking of vehicles, building access, or storage
- f. **Appurtenant Structures (Detached Garages & Small Storage Structures)**

- For A Zones (A, AE, A1-30, AH, AO) - Appurtenant structures used solely for parking of vehicles or limited storage may be constructed such that the floor is below the BFE, provided the structure is designed and constructed in accordance with the following requirements:
 - Use of the appurtenant structure must be limited to parking of vehicles or limited storage;
 - The portions of the appurtenant structure located below the BFE must be built using flood resistant materials;
 - The appurtenant structure must be adequately anchored to prevent flotation, collapse, and lateral movement;
 - Any machinery or equipment servicing the appurtenant structure must be elevated or floodproofed to or above the BFE;
 - The appurtenant structure must comply with floodway encroachment provisions in Section G.4-1;
 - The appurtenant structure must be designed to allow for the automatic entry and exit of flood waters in accordance with Section G.2-1(5).
 - The structure shall have low damage potential,
 - If the structure is converted to another use, it must be brought into full compliance with the standards governing such use, and
 - The structure shall not be used for human habitation.
- Detached garages, storage structures, and other appurtenant structures not meeting the above standards must be constructed in accordance with all applicable standards in Section G.2-1.
- Upon completion of the structure, certification that the requirements of this section have been satisfied shall be provided to the Floodplain Administrator for verification.

3. AE and A1-30 Zones with Base Flood Elevations but No Floodways - In areas with BFEs (but a regulatory floodway has not been designated), no new construction, substantial improvements, or other development (including fill) shall be permitted within zones A1-30 and AE on the community's FIRM,

unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

4. Floodways - Located within areas of special flood hazard established in Section E.2 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that can carry debris, and increase erosion potential, the following provisions apply:

- a. No Rise Standard - Prohibit encroachments, including fill, new construction, substantial improvements, and other development, unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge.
- b. Residential Construction in Floodways - Construction or reconstruction of residential structures is prohibited within designated floodways, except for (i) repairs, reconstruction, or improvements to a structure that do not increase the ground floor area; and (ii) repairs, reconstruction, or improvements to a structure, the cost of which does not exceed 50 percent of the market value of the structure either, (A) before the repair or reconstruction is started, or (B) if the structure has been damaged, and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and that are the minimum necessary to assure safe living conditions, or to structures identified as historic places, may be excluded in the 50 percent.
- c. Replacement of Farmhouses in Floodway - Repairs, reconstruction, replacement, or improvements to existing farmhouse structures located in designated floodways and that are located on lands designated as agricultural lands of long-term commercial significance under RCW [36.70A.170](#) may be permitted subject to the following:
 - The new farmhouse is a replacement for an existing farmhouse on the same farm site;

- There is no potential building site for a replacement farmhouse on the same farm outside the designated floodway;
 - Repairs, reconstruction, or improvements to a farmhouse shall not increase the total square footage of encroachment of the existing farmhouse;
 - A replacement farmhouse shall not exceed the total square footage of encroachment of the farmhouse it is replacing;
 - A farmhouse being replaced shall be removed, in its entirety, including foundation, from the floodway within ninety days after occupancy of a new farmhouse;
 - For substantial improvements and replacement farmhouses, the elevation of the lowest floor of the improvement and farmhouse respectively, including basement, is a minimum of one foot higher than the BFE;
 - New and replacement water supply systems are designed to eliminate or minimize infiltration of flood waters into the system;
 - New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters; and
 - All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.
- d. Substantially Damaged Residences in Floodway - For all substantially damaged residential structures, other than farmhouses, located in a designated floodway, the Floodplain Administrator may make a written request that the Department of Ecology assess the risk of harm to life and property posed by the specific conditions of the floodway. Based on analysis of depth, velocity, flood-related erosion, channel migration, debris load potential, and flood warning capability, the Department of Ecology may exercise best professional judgment in recommending to the local permitting authority repair, replacement, or relocation of a substantially damaged structure consistent with WAC 173-158-076. The property owner shall be responsible for submitting to the local government and the Department of Ecology any information necessary to complete the assessment. Without a favorable recommendation from the department for the repair or replacement of a substantially damaged residential structure located in the

regulatory floodway, no repair or replacement is allowed per WAC [173-158-070\(1\)](#).

Before the repair, replacement, or reconstruction is started, all requirements of the NFIP, the state requirements adopted pursuant to 86.16 RCW, and all applicable local regulations must be satisfied. In addition, the following conditions must be met:

- There is no potential safe building location for the replacement residential structure on the same property outside the regulatory floodway.
 - A replacement residential structure is a residential structure built as a substitute for a legally existing residential structure of equivalent use and size.
 - Repairs, reconstruction, or replacement of a residential structure shall not increase the total square footage of floodway encroachment.
 - The elevation of the lowest floor of the substantially damaged or replacement residential structure is a minimum of one foot higher than the BFE.
 - New and replacement water supply systems are designed to eliminate or minimize infiltration of flood water into the system.
 - New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters.
 - All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.
- e. All Other Building Standards Apply in the Floodway - If Section G.4-1 is satisfied or construction is allowed pursuant to section G.4-2, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section G.0, Provisions For Flood Hazard Reduction.

5. Livestock Sanctuaries - Elevated areas for the purpose of creating a flood sanctuary for livestock are allowed on farm units where livestock is allowed. Livestock flood sanctuaries shall be sized appropriately for the expected number of livestock and be elevated sufficiently to protect

livestock. Proposals for livestock flood sanctuaries shall meet all procedural and substantive requirements of this chapter.

Note: To be “elevated sufficiently to protect livestock” typically means to be elevated at least one foot above the BFE.

- H. Variances - The variance criteria set forth in this section are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners

It is the duty of the County to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below the Base Flood Elevation are so serious that variances from the flood elevation or from other requirements in the Frequently Flooded Areas section are quite rare. The long-term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

1. Requirements for Variances - Variances shall only be issued:
 - a. Upon a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or codes;
 - b. For the repair, rehabilitation, or restoration of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure’s continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure;
 - c. Upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief;
 - d. Upon a showing of good and sufficient cause;

- e. Upon a determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - f. Upon a showing that the use cannot perform its intended purpose unless it is located or carried out in close proximity to water. This includes only facilities defined in Section D.0 {or the numbering system used by the community} in the definition of “Functionally Dependent Use.”
2. Variances shall not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
 3. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the BFE, provided the procedures of Sections F.0 and G.0 {or the numbering system used by the community} have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.
 4. Variance Criteria - In considering variance applications, the County shall consider all technical evaluations, all relevant factors, all standards specified in other sections, and:
 - a. The danger that materials may be swept onto other lands to the injury of others;
 - b. The danger to life and property due to flooding or erosion damage;
 - c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - d. The importance of the services provided by the proposed facility to the community;
 - e. The necessity to the facility of a waterfront location, where applicable;
 - f. The availability of alternative locations for the proposed use, which are not subject to flooding or erosion damage;
 - g. The compatibility of the proposed use with existing and anticipated development;

- h. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - i. The safety of access to the property in time of flood for ordinary and emergency vehicles;
 - j. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and,
 - k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities, such as sewer, gas, electrical, water system, and streets and bridges.
5. Additional Requirements for the Issuance of a Variance
- a. Any applicant to whom a variance is granted shall be given written notice over the signature of a community official that:
 - The issuance of a variance to construct a structure below the BFE will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage, and
 - Such construction below the BFE increases risks to life and property.
 - b. The Floodplain Administrator shall maintain a record of all variance actions, including justification for their issuance.
 - c. The Floodplain Administrator shall condition the variance as needed to ensure that the requirements and criteria of this chapter are met.
 - d. Variances as interpreted in the NFIP are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quite rare.

I. Standards for Shallow Flooding Areas (AO Zones)

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from 1 to 3 feet above ground where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In addition to other provisions in this code, the following additional provisions also apply in AO zones:

1. New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement and mechanical equipment) elevated above the highest adjacent grade to the structure, one foot or more above* the depth number specified in feet on the community's FIRM (at least two feet above the highest adjacent grade to the structure if no depth number is specified).
2. New construction and substantial improvements of nonresidential structures within AO zones shall either:
 - Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, one foot or more above* the depth number specified on the FIRM (at least two feet if no depth number is specified); or
 - Together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer, or architect as in section G.2-2(3).
3. Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.
4. Recreational vehicles placed on sites within AO zones on the community's FIRM either:
 - Be on the site for fewer than 180 consecutive days, or

- Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
- Meet the requirements of subsections (1) and (3) above and the anchoring requirements for manufactured homes (Section G.1-1(2)).

xx.36.080 Critical Aquifer Recharge Areas

A. Classification

Aquifer recharge areas shall be rated and determined by the criteria established by Ecology (Publication #05-10-028, March 2005). The County hereby incorporates the ratings system as the first step in ranking the susceptibility of an aquifer to surface contamination. When applicable, the County will use wellhead protection areas developed for Class A water systems to further refine the degree of susceptibility. Aquifer recharge areas shall be classified as following:

1. Wellhead protection areas. Wellhead protection areas may be defined by the boundaries of the 10-year time of groundwater travel or boundaries established using alternate criteria approved by the Washington State Department of Health in those settings where groundwater time of travel is not a reasonable delineation criterion, in accordance with WAC 246-290-135.
2. Sole-source aquifers. Sole-source aquifers are areas designated by the U.S. Environmental Protection Agency pursuant to the Federal Safe Water Drinking Act.
3. Susceptible groundwater management areas. Susceptible groundwater management areas are areas that have been designated as moderately or highly vulnerable or susceptible in an adopted groundwater management program developed pursuant to WAC 173-100.
4. Special protection areas. Defined pursuant to WAC 173-200-090.
5. Moderately, highly vulnerable, or highly susceptible aquifer recharge areas. Aquifer recharge areas that are moderately, highly vulnerable, or highly susceptible to degradation or depletion due to hydrogeologic characteristics are those areas delineated by a hydrogeologic study prepared in accordance with the Ecology guidelines or meeting the criteria established by Ecology.

B. Susceptibility Factors, Rating Systems, and Designations

Aquifer recharge areas designations include the wellhead protection areas for other Group A water systems within the County.

C. Protection Requirements

Regulations adopted under this section shall not affect any right to use or appropriate water as allowed under state or federal law.

1. The following uses require aquifer recharge areas review and a hydrogeologic site evaluation pursuant to Section 13.50.040:

- a. Chemical manufacturing or reprocessing;
 - b. Commercial, industrial, institutional, or other facilities or activities that include storage, use, handling, or production of hazardous substances or waste products as defined by WAC 173-303;
 - c. Creosote and asphalt manufacture and treatment;
 - d. Electroplating;
 - e. Petroleum transmission facilities;
 - f. Sawmills producing more than 10,000 board feet per day;
 - g. Solid waste landfills;
 - h. Any septic or sewage disposal system with design flows of more than 3,500 gallons per day;
 - i. Surface mining operations requiring a permit from the State DNR; and
 - j. Type II and Type V Injection Wells.
2. The following uses may require aquifer recharge areas review and a hydrogeologic site evaluation pursuant to Section 13.50.040. The Administrator shall waive this requirement if an applicant provides documentation showing compliance with federal, state, and local laws, along with BMPs designed for the specific project, are sufficient to protect potentially affected aquifers.
- a. Aircraft, automobile, and boat repair and servicing;
 - b. Dry cleaners;
 - c. Funeral services;
 - d. Furniture stripping;
 - e. Gas stations and petroleum storage tanks (underground or aboveground) regulated and inspected by the Ecology;
 - f. Golf courses;
 - g. Junkyards and auto wrecking;
 - h. Other projects or activities, including septic or sewage disposal systems serving commercial and industrial projects as determined by the Administrator on recommendation from the Stevens County PUD, the Tri-County Health District, or an affected water purveyor.
3. The Administrator shall impose conditions to avoid, reduce, mitigate, or remediate impacts to an aquifer, as appropriate for the project and may require monitoring and bonding or other security to ensure conditions of approval are met. An approval based on compliance with federal, state, or local, but non-County, regulations shall not shift the burden of enforcement from the federal, state, or other local agency to the County.

D. Hydrogeologic Site Evaluation

- 1. A hydrogeologic site evaluation is a report prepared by a qualified professional (hydrogeologist) with demonstrated experience in surface water and groundwater analysis.

2. The report shall address the impact the proposed land use will have on the quality and quantity of water transmitted to an aquifer and shall include the following:
 - a. A description of surficial soil types and the geologic and hydrogeologic setting including: soil texture, permeability, and contaminant attenuation properties; characteristics of the vadose zone and geologic material including permeability and attenuation properties; and depth to groundwater and/or an impermeable soil layer;
 - b. The location and identification of wells within 1,300 feet of the site;
 - c. The location and identification of surface waterbodies and springs with recharge potential within 1,300 feet of the site;
 - d. A description of underlying aquifers, including water level, gradients, and flow direction;
 - e. Any available data on surface water and groundwater quality;
 - f. An assessment of the effects of the proposed development on water quality, quantity, and on the long-term viability of the groundwater resource;
 - g. Alternatives to avoid, reduce, mitigate, or remediate any substantial impact to the groundwater resource;
 - h. Recommendations for appropriate BMPs, monitoring, or other mitigation;
 - i. Other information as required by the Administrator in consultation with the Northeast Tri-County Health District, or an affected water purveyor.