CRITICAL AREAS REGULATIONS IN SHORELINE JURISDICTION

CITY OF CASHMERE

Chapters:

CHAPTER 1 - GENERAL PROVISIONS

Sections:

1.010 Purpose.

The purpose of this title is to provide for reasonable protection of the natural environment and the general public health, safety and welfare, and satisfy the requirements of the Shoreline Management Act for critical areas protection as provided in WAC 173-26-221 by:

A. Implementing the City of Cashmere Comprehensive Plan;
B. Establishing standards to protect critical areas;
C. Protecting the general public, resources and facilities from injury, loss of life, property damage or financial loss due to flooding, landslides, or failure of steep slopes;
D. Protecting unique, fragile and valuable elements of the environment;
E. Meeting the requirements of the National Flood Insurance program and maintaining the City as an eligible community for federal flood insurance benefits;
F. Preventing cumulative adverse environmental impacts on water availability, water quality, groundwater, wetlands, rivers and streams;
G. Providing appropriate guidance and protection measures for addressing the needs and concerns associated with critical areas that help define the quality of life in the City;

H. Encouraging the retention of open space and development of recreational opportunities, conserving fish and wildlife habitat, and increasing access to natural resource lands and water;
I. Implementing applicable mandated federal and state regulations; and
J. Incorporating the most current, accurate, and complete scientific and technical information available in determining appropriate measures to protect the functions and values of critical areas and for the preservation and/or enhancement of anadromous fisheries.

1.020 Applicability.

A. When a chapter reference is used, it shall be inclusive of all of Appendix B.
B. This chapter classifies and designates critical areas in the City and establishes protection measures for critical areas within the shoreline jurisdiction of the City's incorporated limits. Any development authorized to alter the condition of any land, water or vegetation; or to alter or construct any building, structure or improvement shall be in compliance with the requirements of this chapter.
C. When the provisions of this title or any other provisions of the City's municipal code are in direct conflict with each other or with other federal or state regulations, the provision that is more protective of shoreline resources shall prevail, when consistent with SMA policy.

1.030 Reference maps and inventories.

The distribution of critical areas within the City is described and displayed in reference materials and on maps maintained by the City. These reference materials, in the most current form, are intended for general information only and do not depict site- specific designations. They are intended to advise the City, applicants and other participants in the development permit review process that a critical area may exist and that further study, review and consideration may be necessary. These reference materials shall include but are not limited to the following:

A. Maps.
    1. City of Cashmere Critical Area Reference Map: Wetland Areas;
    2. City of Cashmere Critical Area Reference Map: Fish and Wildlife Habitat Areas;
    3. City of Cashmere Critical Area Reference Map: Geologically Hazardous Areas;
    4. City of Cashmere Critical Area Reference Map: Frequently Flooded Areas;
    5. FEMA Flood Insurance Rate Maps (2004);
    6. U.S. Fish and Wildlife Service National Wetlands Inventory;
    7. Washington State Department of Fish and Wildlife Priority Habitats and Species Maps;
    8. U.S.G.S. 7.5 Minute Series Topographic Quadrangle Maps; and
    9. Aerial photos.
    10. City of Cashmere's Shoreline Environment Designation Maps.
B. Documents.
    1. Approved special reports previously completed for a subject property, no greater

than five years old and as long as significant development has not occurred on or near the property since the report was completed;
2. The Flood Insurance Study for the City of Cashmere (2004);
3. City of Cashmere Comprehensive Plan;
4. City of Cashmere Shoreline Master Program;
5. NRCS Soil Survey Maps for Chelan County Area;
6. Delineation Procedures and Federal Manuals outlined in WAC 173-22-035;
7. Washington State Wetlands Rating System for Eastern Washington: 2014 Update (Ecology Publication #14-06-030 or as revised and approved by Ecology).

1.040 Disclosure.

The presence of any known or suspected critical areas on or within 300 feet of property that is the subject of a development permit shall be identified by the applicant in the application materials submitted to the City.

1.050 Review process.

Provisions of this chapter shall be considered and applied appropriately during development permit application reviews within shoreline jurisdiction initiated under applicable titles of the CMC. Review of development within frequently flooded areas, aquifer recharge areas, geologically hazardous areas, fish and wildlife habitat conservation areas, and wetlands and any associated buffers within shoreline jurisdiction that do not require a development permit application shall be subject to the provisions of Section 1.080 (C) of Appendix B.

1.060 Mitigation, maintenance, monitoring and contingency.

A. Mitigation, maintenance, monitoring and contingency plans shall be implemented by the developer to protect critical areas and their buffers prior to the commencement of any development activities.
B. The property owner shall be responsible for reporting to the City and undertaking appropriate corrective action when monitoring reveals a significant deviation from predicted impacts or a failure of mitigation or maintenance measures.

1.070 Surety.

If a development proposal is subject to mitigation, maintenance or monitoring plans, an assurance device or surety may be required by the City in accordance with the CMC.

1.080 Special reports.

A. In order to maintain and protect critical areas, as well as to assist in classifying and designating such areas, site-specific environmental information will be required when evaluating a development proposal.
B. Special reports shall be submitted for review and approval in conjunction with development applications when required by the City. Each chapter that deals with a specific critical area also contains a description of when special reports may be required. The City shall establish and maintain a list of qualified consultants for the different types of reports, plans, studies, etc.

C. When no other application review process is required, final special reports shall be reviewed and approved by the City according to the provisions governing limited administrative reviews.
D. The preparation of special reports or tests required by this chapter is the responsibility of the applicant for a development permit. Costs incurred by the City to engage technical consultants or for staff review and interpretation of data and findings submitted by or on behalf of the developer or applicant shall be reimbursed by the applicant in accordance with a schedule adopted by the City.
E. Special studies and reports, including site plans, shall be submitted in such a manner that they conform to the most current version of the City's design guidelines, as determined by the public works coordinator.
F. The City may waive the requirement for a special report(s) in the following instances:
    1. If the proposed development is a minor development that will not cause adverse impacts;
    2. There is adequate, existing information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigation measures; or
    3. If the City determines, after a site visit, that the proposal is not located within a critical area, even though it may appear on the reference maps identified in Section 1.030.

1.090 Drainage and erosion control plan.

A. All drainage and erosion control plans shall be prepared by an engineer licensed in the state of Washington. Upon the City's review and approval of the drainage and erosion control plans, the identified measures to prevent contaminated stormwater from being discharged off the construction site must be in place prior to any clearing, grading or construction.
B. All drainage and erosion control plans shall address methods to minimize and contain soil within the project boundaries during construction and to provide for stormwater drainage from the site and its surroundings during and after construction. Best management practices (BMPs) must be used to prevent any sediment, oil, gas, pesticide-contaminated soil or other pollutants from entering surface or ground water.
C. All drainage and erosion control plans shall be prepared using the Type 2 SCS model, taking into account a storm event equal to or exceeding two inches of rainfall in 90 minutes.

1.100 Grading and excavation plan.

All grading and excavation plans shall be prepared by an engineer licensed in the state of Washington, and shall meet the standards and requirements set forth in Chapter 15.11 CMC, Appendix Chapter 33 of the Uniform Building Code, and shall contain the following information:

A. A cover sheet showing the location of work, the name and address of the owner and the engineer who prepared the plans;

B. General vicinity of the proposed site;
C. Property limits and accurate contours of existing ground and details of terrain and area drainage. Contour intervals for slopes 10 percent or less shall be no more than two feet, and intervals for slopes exceeding 10 percent shall be no more than five feet;
D. Limits of proposed excavation and fill sites, finished contours to be achieved by the grading, and proposed drainage channels to offset stormwater impacts during grading and excavation (and related construction);
E. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as part of, the proposed work, together with a map showing the drainage area and the estimated runoff of the area served by any drains;
F. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within 15 feet of the property;
G. Recommendations included in a soils engineering report and the engineering geology report shall be incorporated in the grading plans or specifications. When approved by the building official, specific recommendations contained in the soils engineering report and the engineering geology report, which are applicable to grading, may be included by reference;
H. The dates of the soils engineering and engineering geology reports together with the names, seals, license numbers, addresses and phone numbers of the firms and/or individuals who prepared the reports.

1.110 Enforcement.

The provisions of the Shoreline Management Permit and Enforcement Procedures (WAC 173-27) shall be applied and interpreted for the enforcement of violations of the provisions contained within these chapters.

CHAPTER 2 - WETLANDS

Sections:

2.010 Purpose.

The purposes of this Chapter are to:

A. 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 biofiltration, adsorption, retention and transformation of sediments, nutrients, and toxicants.

B. Regulate land use to avoid adverse effects on wetlands and maintain the functions and values of wetlands throughout Cashmere's shoreline jurisdiction.

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

2.020 Identification and Rating.

A. Identification and Delineation. Wetlands shall be identified and delineated by a qualified wetland professional in accordance with the approved federal wetland delineation manual and applicable regional supplements.

B. Rating. 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: 2014 Update (Ecology Publication #14-06-030 or as revised and approved by Ecology) which contains the definitions and methods for determining if the criteria below are met.

1. Category I wetlands are: (i) alkali wetlands; (ii) wetlands of high conservation value that are identified by scientists of the Washington Natural Heritage Program/DNR; (iii) bogs and calcareous fens; (iv) mature and old-growth forested wetlands over ¼ acre with slow-growing trees; (v) forests with stands of aspen; and (vi) wetlands that perform many functions very well (scores between 22-27). These wetlands are those that (a) represent a unique or rare wetland type; or (b) are more sensitive to disturbance than most wetlands; or (c) are relatively undisturbed and contain

ecological attributes that are impossible to replace within a human lifetime; or (d) provide a high level of function.

2. Category II wetlands are: (i) forested wetlands in the floodplains of rivers; (ii) mature and old-growth forested wetlands over ¼ acre with fast-growing trees; (iii) vernal pools; and (iv) wetlands that perform functions well (scores between 19-21 points). These wetlands are difficult, though not impossible, to replace and provide high levels of some functions. These wetlands occur more commonly than Category I wetlands but still need a relatively high level of protection.
3. Category III wetlands have a moderate level of functions (scores between 16-18 points). These wetlands can be often adequately replaced with a well-planned mitigation project. Wetlands scoring between 16-18 points generally have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.
4. Category IV wetlands have the lowest level of functions (scores fewer than 16 points) and are often 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.

C. Illegal modifications. Wetland rating categories shall not change due to illegal modifications made by the applicant, landowner, or with the applicant's or landowner's knowledge.

2.030 Regulated Activities.

A. For any regulated activity, a critical areas report (see Section 2.060 of this Chapter) may be required to support the requested activity.
B. The following activities are regulated if they occur in a regulated wetland or its buffer:
   1. The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind
   2. The dumping of, discharging of, or filling with any material
   3. The draining, flooding, or disturbing the water level or water table
   4. Pile driving
   5. The placing of obstructions
   6. The construction, reconstruction, demolition, or expansion of any structure
   7. 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
   8. Activities that result in:
      a. A significant change of water temperature
      b. A significant change of physical or chemical characteristics of the sources of water to the wetland
      c. A significant change in the quantity, timing or duration of the water entering the wetland

d. The introduction of pollutants

2.040 Exemptions and Allowed Uses in Wetlands and Wetland Buffers.

A. Small isolated wetlands in arid landscapes often have a higher value and perform greater functions than in other settings. However, in certain circumstances, applying the buffers in Table 2.1 may result in buffer areas greater than that of the wetland being protected. In these instances, the City may consult with the Department of Ecology to determine whether exemptions from mitigation sequencing and/or reduced buffers are warranted.

B. Activities Allowed in Wetlands and Wetland Buffers. The activities listed below are allowed in wetlands. These activities do not require submission of a critical area report, except where such activities result in a loss to the functions and values of a wetland or wetland buffer. These activities include:

1. Conservation or preservation of soil, water, vegetation, fish, shellfish, and other wildlife that does not entail changing the structure or functions of the existing wetland or buffer.
2. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, chemical applications, or alteration of the wetland by changing existing topography, water conditions, or water sources.
3. 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 is disturbed.
4. Enhancement of a wetland or buffer 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.
5. Activities determined by the City as having minimal adverse impacts such as educational and scientific research activities, fishing, etc
6. 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, right-of-way or easement.
7. Site study work such as surveys, soil logs, and other related activities necessary for the submittal of a land-use application.
8. Stormwater management facilities. A wetland or its buffer can be physically or hydrologically altered to meet the requirements of a low impact development (LID), runoff treatment, or flow control best management practices (BMP) if all of the following criteria are met:

a. The wetland is classified as a Category IV or a Category III wetland with a habitat score of 3-5 points, and
b. There will be "no net loss" of functions and values of the wetland with mitigation, and
c. The wetland does not contain a breeding population of any native amphibian species, and
d. The hydrologic functions of the wetland can be improved as outlined in questions 3, 4, 5 of Chart 4 and questions 2, 3, 4 of Chart 5 in the "Guide for Selecting Mitigation Sites Using a Watershed Approach," or the wetland is part of a priority restoration plan that achieves restoration goals identified in the Chelan County Shoreline Master Program or other local or regional watershed plan, and
e. The wetland lies in the natural routing of the runoff, and the discharge follows the natural routing, and
f. All regulations regarding stormwater and wetland management are followed, including but not limited to local and state wetland and stormwater codes, manuals, and permits, and
g. Modifications that alter the structure of a wetland or its soils will require permits.
h. Existing functions and values that are lost would have to be compensated/replaced.
   Stormwater LID BMPs required as part of new and redevelopment projects can be considered within wetlands and their buffers. However, these areas may contain features that render LID BMPs infeasible. A site-specific characterization is required to determine if a LID BMP is feasible at the project site.

2.050 Wetland Buffers.

A. Buffer Requirements. The following standard buffer widths in Table 2.1 have been established in accordance with the best available science. They are based on the category of wetland and the habitat score as determined by a qualified wetland professional wetland biologist/consultant using the Washington State Wetland Rating System for Eastern Washington: 2014 Update (Ecology Publication #14-06-030, or as revised and approved by Ecology), and by the level of impact from the proposed land use (Table 2.3).
   1. The buffer widths for proposed high impacts land uses can be reduced to the buffer widths for moderate impact land uses under the following conditions:
      a. For wetlands that score 6 points or more for habitat function:
         i. A relatively undisturbed, vegetated corridor at least 100 feet wide is protected between the wetland and any other Priority Habitats as defined by

the Washington State Department of Fish and Wildlife, where available. The corridor must be protected for the entire distance between the wetland and the Priority Habitat by some type of legal protection such as a conservation easement.

ii. Measures to minimize the impact of different land uses, such as the examples in Table 2.2, are applied.

b. For wetlands that score 3-5 habitat points, only application of the measures in Table 2.2 are required to reduce the buffer width to those required for moderate impact land uses.

i. If an applicant chooses not to apply the measures in Table 2.2, or is unable to provide a protected corridor where available, then high impact buffer widths must be applied.

2. Small isolated wetlands in arid landscapes often have a higher value and perform greater functions than in other settings. However, in certain circumstances, applying the buffers in Table 2.1 may result in buffer areas greater than that of the wetland being protected. In these instances, the Administrator may consult with the Department of Ecology to determine whether exemptions from mitigation sequencing and/or reduced buffers are warranted.
3. The buffer widths in Table 2.1 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.

Table 2.1 Minimum Wetland Buffer Requirements

Wetland Category	Wetland Type	Level of Land Use Impact	Buffer width (in feet) based on habitat score		
			3-5	6-7	8-9
I	Based on total score and Forested Wetlands	Low	50	75	100
		Moderate	75	110	150
		High	100	150	200
	Bogs and Wetlands of High Conservation Value	Low	125		
		Moderate	190		
		High	250		
	Alkali Wetlands	Low	100		
		Moderate	150		
		High	200		
II	Based on total score and Riparian Forest Wetlands	Low	50	75	100
		Moderate	75	110	150
		High	100	150	200
	Vernal Pools	Low	100		
		Moderate	150		

		High	200		
III	All types of Wetlands	Low	40	75	Use Category II buffer widths
		Moderate	60	110	
		High	80	150	
IV	All types of Wetlands	Low	25		
		Moderate	40		
		High	50		

Table 2.2. Required measures to minimize impacts to wetlands.
(Measures are required, where applicable to a specific proposal)

Disturbance	Required Measures to Minimize Impacts
Lights	• Direct lights away from wetland
Noise	• Locate activity that generates noise away from wetland • If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source • For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10' heavily vegetated buffer strip immediately adjacent to the outer wetland buffer.
Toxic runoff	• Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 ft of wetland • Apply integrated pest management
Stormwater runoff	• Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized flow from lawns that directly enters the buffer • Use Low Intensity Development techniques (per PSAT publication on LID techniques)
Change in water regime	• Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	• Use privacy fencing OR plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion; • Place wetland and its buffer in a separate tract or protect with a conservation easement
Dust	• Use best management/construction practices to control dust

Table 2.3. Land Use Impact.

Level of Impact from Proposed Land Use	Types of Land Uses
High	• Commercial

	• Urban • Industrial • Institutional • Retail sales • Residential (more than 1 unit/acre) • Conversion to high-intensity agriculture (dairies, nurseries, greenhouses, cannabis farms, outdoor cannabis production, growing and harvesting crops requiring annual tilling, and raising and maintaining animals, etc.) • High-intensity recreation (golf courses, ball fields, etc.) • Hobby farms
Moderate	• Residential (1 unit/acre or less) • Moderate-intensity open space (parks with biking, jogging, etc.) • Conversion to moderate-intensity agriculture (orchards, hay fields, etc.) • Paved trails • Building of logging roads • Utility corridor or right-of-way shared by several utilities and including access/maintenance road
Low	• Forestry (cutting of trees only) • Low-intensity open space (hiking, bird-watching, preservation of natural resources, etc.) • Unpaved trails • Utility corridor without a maintenance road and little or no vegetation management.

4. Buffer averaging to improve wetland protection may be permitted when all of the following conditions are met:
   a. The wetland has significant differences in characteristics that affect its habitat functions, such as a wetland with a forested component adjacent to a degraded emergent component or a "dual-rated" wetland with a Category I area adjacent to a lower rated area.
   b. The buffer is increased adjacent to the higher-functioning area of habitat or more sensitive portion of the wetland and decreased adjacent to the lower functioning or less sensitive portion as demonstrated by a critical areas report from a qualified wetland professional.
   c. The total area of the buffer after averaging is equal to the area required without averaging.
   d. The buffer at its narrowest point is never less than either ¾ 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.

5. Averaging to allow reasonable use of a parcel may be permitted when all of the following are met:
    a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging.
    b. The averaged buffer will not result in degradation of the wetland's functions and values as demonstrated by a critical areas report from a qualified wetland professional.
    c. The total buffer area after averaging is equal to the area required without averaging.
    d. The buffer at its narrowest point is never less than either ¾ 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.

B. Measurement of Wetland Buffers**.** All buffers shall be measured perpendicular from the wetland boundary as surveyed in the field. The buffer for a wetland created, restored, or enhanced as compensation for approved wetland alterations shall be the same as the buffer required for the category of the created, restored, or enhanced wetland. Only fully vegetated buffers will be considered. Lawns, walkways, driveways, and other mowed or paved areas will not be considered buffers or buffers or included in buffer area calculations.

C. Buffers on Mitigation Sites**.** All mitigation sites shall have buffers consistent with the buffer requirements of this Chapter. Buffers shall be based on the expected or target category of the proposed wetland mitigation site.

D. Buffer Maintenance**.** Except as otherwise specified or allowed in accordance with this Chapter, wetland buffers shall be retained in an undisturbed or enhanced condition.

E. Impacts to Buffers**.** Requirements for the compensation for impacts to buffers are outlined in Section 2.070 of this Chapter.

F. Overlapping Critical Area Buffers. If buffers for two contiguous critical areas overlap (such as buffers for a stream and a wetland), the wider buffer applies.

G. Allowed Buffer Uses. Low impact uses are allowed in buffers consistent with 2.040(A). In addition, the following are permitted within buffers:
    1. Conservation and Restoration Activities. Conservation or restoration activities aimed at protecting the soil, water, vegetation, or wildlife.
    2. Passive Recreation. Passive recreation facilities designed and in accordance with an approved critical area report, including pedestrian walkways and trails and wildlife viewing platforms. When trails within wetland buffers cannot be located on existing disturbed areas, trail facilities shall be located in the outer 25 percent of the wetland buffer away from the wetland edge. Trails and walkways should be located to avoid removal of significant trees. They should be limited to pervious surfaces no more than five (5) feet in width for pedestrian use only. Raised boardwalks utilizing non-treated pilings may be acceptable.
    3. Educational and scientific research activities.
    4. 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.

5. 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.
6. 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.
7. 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.
8. Repair and maintenance of non-conforming uses or structures, where legally established within the buffer, provided they do not increase the degree of nonconformity.

H. Signs and Fencing of Wetlands and Buffers

1. Temporary Markers. The outer perimeter of the wetland buffer and the clearing limits identified by an approved permit or authorization shall be marked in the field with temporary "clearing limits" fencing in such a way as to ensure that no unauthorized intrusion will occur. The marking is subject to inspection by the City 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. Signs must be posted at an interval of one (1) per lot or every fifty (50) feet, whichever is less, and must be maintained by the property owner. Sign shall be no greater than 4 square feet in size.
2. Permanent Signs. As a condition of any permit or authorization issued pursuant to this Chapter, the City may require the applicant to install permanent signs along the boundary of a wetland or buffer.
    a. Permanent signs shall be made of an enamel-coated metal face and attached to a metal post or another non-treated material of equal durability. Signs must be posted at an interval of one (1) per lot or every fifty (50) feet, whichever is less, and must be maintained by the property owner in perpetuity. Sign shall not be greater than 4 square feet in size. The sign shall be worded as follows or with alternative language approved by the Administrator:

Protected Wetland Area

Do Not Disturb

Contact City of Cashmere

Regarding Uses, Restrictions, and Opportunities for Stewardship

b. The provisions of Subsection (a) may be modified as necessary to assure protection of sensitive features or wildlife.

3. Fencing
   a. The applicant shall be required to install a permanent fence around the wetland 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 designed so as to not interfere with species migration, including fish runs, and shall be constructed in a manner that minimizes impacts to the wetland and associated habitat.

2.060 Critical Area Report for Wetlands

A. If the Administrator determines that the site of a proposed development includes, is likely to include, or is adjacent to a wetland, a wetland report, prepared by a qualified professional, shall be required. The expense of preparing the wetland report shall be borne by the applicant.

B. Minimum Standards for Wetland Reports. The written report and the accompanying plan sheets shall contain the following information, at a minimum:
   1. The name and contact information of 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 250 feet of the project boundaries using the best available information;
   6. For each wetland identified on-site and within 250 feet of the project site provide: the wetland rating per *Wetland Ratings* (Section 2.020.B of this Chapter); required buffers; hydrogeomorphic classification; wetland acreage based on a professional survey from the field delineation (acreages for on-site portion and entire wetland area including off-site portions); Cowardin classification of vegetation communities; 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.). Provide acreage estimates, classifications, and ratings based on entire wetland complexes, not only the portion present on the proposed project site;

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 impacts to the wetlands and buffers resulting from the proposed development;
9. A description of reasonable efforts made to apply mitigation sequencing pursuant to *Mitigation Sequencing* (Chapter 2.070.A) 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, and;
12. Evaluation of functions of the wetland and adjacent buffer using a functions assessment method recognized by local or state agency staff and including the reference for the method used and all data sheets.
13. 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);
    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.

2.070 Criteria for Compensation, Location, and Mitigation Sequence.

A. Applicants shall demonstrate that all reasonable efforts have been examined with the intent to avoid and minimize impacts to wetlands and their buffers. When an alteration to a wetland or its buffer is proposed, such alteration shall be avoided, minimized, or compensated for in the following sequential order of preference which shall be discussed in the compensatory mitigation plan as they relate to the proposal:

1. Avoiding the impacts altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or affirmative steps, such as

projects design, relocations, or timing, to avid or reduce impacts;
3. Rectifying the impact to wetlands or wetland buffers by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact or hazard over time by preserving and maintenance operations during the life of the action;
5. Compensating for the impact by replacing, enhancing, or providing substantial resources or environments; and
6. Monitoring the impact and the compensation projects and taking appropriate corrective action when necessary.

Mitigation for individual for actions may include a combination of the above measure.

B. In cases in which it is determined that compensatory mitigation is appropriate, the following shall apply:
   1. Compensatory mitigation shall be provided on-site, except where on-site mitigation is not scientifically feasible or practical due to physical features of the site. The burden of proof shall be on the applicant to demonstrate that mitigation cannot be provided on-site.
   2. Mitigation projects shall be concurrent with other activities on the site, unless a phased schedule is agreed upon between the City and the applicant. The mitigation project shall be completed prior to use or occupancy of the action or development.
C. Wetland Mitigation Ratios: Where wetlands are altered, the applicant shall meet the minimum requirements of this section. When it is proposed to alter or eliminate a wetland, the applicant shall be required to replace the affected wetland. A reduction in overall wetland area is allowed if approved by the City. If off-site mitigation measures are determined to be appropriate, off-site mitigation shall be located in the same watershed as the development, within Cashmere or Chelan County. The recommended ratios for replacement and/or compensation for Category I, II, III, and IV wetlands are as follows:

Category and Type of Wetland	Creation or Reestablishment	Rehabilitation	Enhancement	Preservation
Category I—Bog, Natural Heritage site	Not considered possible	Case-by-case	Case-by-case	Case-by-case
Category I— Mature Forested	6:1	12:1	24:1	24:1
Category I— Based on functions	4:1	8:1	16:1	20:1
Category II— Based on functions	3:1	6:1	12:1	20:1
Category III	2:1	4:1	8:1	15:1
Category IV	1.5:1	3:1	6:1	10:1

D. Buffer Mitigation Ratios. Impacts to buffers shall be mitigated at a minimum 1:1 ratio. Compensatory buffer mitigation shall replace those buffer functions lost from development.
E. Surety/Bonding. If a development proposal is subject to mitigation, maintenance or

monitoring plans, the City of Cashmere, in a form acceptable to the City Attorney shall require an assurance devise or surety.

F. Monitoring. Mitigation monitoring shall be required for a period necessary to establish that performance standards have been met, but not for a period less than five years. If a scrub-shrub or forested vegetation community is proposed, monitoring may be required for ten years or more. The project mitigation plan shall include monitoring elements that ensure certainty of success for the project's natural resource values and functions. If the mitigation goals are not obtained within the initial five-year period, the applicant remains responsible for restoration of the natural resource values and functions until the mitigation goals agreed to in the mitigation plan are achieved.

2.080 Compensatory Mitigation Plan.

A. Compensatory Mitigation Plan**.** When a project involves wetland and/or buffer impacts, a compensatory mitigation plan prepared by a qualified professional shall be required, meeting the following minimum standards:
   1. Wetland Critical Area Report. A critical area report for wetlands must accompany or be included in the compensatory mitigation plan and include the minimum parameters described in 2.060.
   2. Compensatory Mitigation Report. The report must include a written report and plan sheets that must contain, at a minimum, the following elements. Full guidance can be found in *Wetland Mitigation in Washington State– Part 2: Developing Mitigation Plans (Version 1)* (Ecology Publication #06- 06-011b, Olympia, WA, March 2006 or as revised).
      a. The written report must contain, at a minimum:
         i. The name and contact information of the applicant; the name, qualifications, and contact information for the primary author(s) of the compensatory mitigation report; a description of the proposal; a summary of the impacts and proposed compensation concept; identification of all the local, state, and/or federal wetland-related permit(s) required for the project; and a vicinity map for the project.
         ii. Description of how the project design has been modified to avoid, minimize, or reduce adverse impacts to wetlands.
         iii. Description of the existing wetland and buffer areas proposed to be impacted. Include acreage (or square footage), water regime, vegetation, soils, landscape position, surrounding lands uses, and functions. Also describe impacts in terms of acreage by Cowardin classification, hydrogeomorphic classification, and wetland rating, based on *Wetland Ratings* in 2.020.
         iv. Description of the compensatory mitigation site, including location and rationale for selection. Include an assessment of existing conditions: acreage (or square footage) of wetlands and uplands, water regime, sources of water, vegetation, soils, landscape position, surrounding land uses, and functions. . Estimate future conditions in this location if the

compensation actions are NOT undertaken (i.e., how would this site progress through natural succession?).

v. Surface and subsurface hydrologic conditions, including an analysis of existing and proposed hydrologic regimes for enhanced, created, or restored compensatory mitigation areas.
vi. Include illustrations of how data for existing hydrologic conditions were used to determine the estimates of future hydrologic conditions
vii. A description of the proposed actions for compensation of wetland and upland areas affected by the project. Include overall goals of the proposed mitigation, including a description of the targeted functions, hydrogeomorphic classification, and categories of wetlands.
viii. A description of the proposed mitigation construction activities and timing of activities.
ix. Performance standards (measurable standards for years post-installation) for upland and wetland communities, a monitoring schedule, and a maintenance schedule and actions proposed by year.
x. A discussion of ongoing management practices that will protect wetlands after the development project has been implemented, including proposed monitoring and maintenance programs (for remaining wetlands and compensatory mitigation wetlands).
xi. A bond estimate for the entire compensatory mitigation project, including the following elements: site preparation, plant materials, construction materials, installation oversight, maintenance twice per year for up to five (5) years, annual monitoring field work and reporting, and contingency actions for a maximum of the total required number of years for monitoring.
ix. Proof of establishment of Notice on Title for the wetlands and buffers on the project site, including the compensatory mitigation areas.

b. The scaled plan sheets for the compensatory mitigation must contain, at a minimum:
   i. Surveyed edges of the existing wetland and buffers, proposed areas of wetland and/or buffer impacts, location of proposed wetland and/or buffer compensation actions.
   ii. Existing topography, ground-proofed, at two-foot contour intervals in the zone of the proposed compensation actions if any grading activity is proposed to create the compensation area(s). Also existing cross-sections of on-site wetland areas that are proposed to be impacted, and cross-section(s) (estimated one- foot intervals) for the proposed areas of wetland or buffer compensation.
   iii. Conditions expected from the proposed actions on site, including future hydrogeomorphic types, vegetation community types by dominant species (wetland and upland), and future water regimes.

iv. Required wetland buffers for existing wetlands and proposed compensation areas. Also, identify any zones where buffers are proposed to be reduced or enlarged outside of the standards identified in this Chapter.
v. A planting plan for the compensation area, including all species by proposed community type and water regime, size and type of plant material to be installed, spacing of plants, typical clustering patterns, total number of each species by community type, and timing of installation.

2.090 Unauthorized Alterations and Enforcement

A. 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. The City 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.
B. Requirement for Restoration Plan**.** All development work shall remain stopped until a restoration plan is prepared and approved by City. 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 in Subsection (C). The City shall, 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.

CHAPTER 3 - FISH AND WILDLIFE HABITAT CONSERVATION AREAS

Sections:

3.010 Permitted uses and activities.

Uses and activities allowed within designated fish and wildlife habitat conservation areas are those uses permitted by this Shoreline Master Program subject to the provisions of this chapter.

3.020 Classification.

A. All fish and wildlife habitat conservation areas shall be classified by the City to reflect the relative function, value and uniqueness of the habitat area as established through an approved habitat ranking evaluation submitted by the applicant for any development permit. The City may use the following information sources as guidance in identifying the presence of potential fish and wildlife habitat conservation areas and the subsequent need for a habitat boundary survey:
   1. All sources identified in Section 1.030;
   2. The City shoreline master program environment designation maps and corresponding SMP buffers;
   3. Washington Department of Fish and Wildlife priority habitat and species maps;
   4. Previous habitat boundary surveys; and
   5. On-site inspection.

B. Fish and wildlife habitat conservation areas shall be classified according to the following system:
   1. Level 1 Critical. These are habitat areas which may be significantly disrupted by development in the immediate vicinity. Critical habitat may include winter ranges, migration routes, nesting sites, perches and wetlands, riparian, aquatic and upland habitat areas. These habitats are designated as critical habitat on the City of Cashmere Critical Area Reference Map: Fish and Wildlife Habitat Areas. Aquatic habitats and their associated riparian or upland habitat areas designated as Shoreline Vegetation Conservation Area buffers are regulated under this chapter of Appendix B. Additionally, those non-shoreline aquatic habitats are regulated under this chapter not meeting the definition of a shoreline of the state is also regulated under this chapter if located within Shoreline jurisdiction.
   2. Level 2 Awareness. These habitat areas are those surrounding or adjacent to designated Level 1 Critical areas that, if disturbed, could impact the Level 1 area. These habitats are designated as awareness habitat on the City of Cashmere Critical

Area Reference Map: Fish and Wildlife Habitat Areas.

3.030 Designation.

All existing areas of the City classified according to the provisions contained in this chapter, as determined by the City, are designated as fish and wildlife habitat conservation areas. Only those fish and wildlife habitat conservation areas located in shoreline jurisdiction are subject to this chapter and this Shoreline Master Program.

3.040 Application requirements.

Development permit applications shall provide appropriate information on forms provided by the City, including without limitation the information described below. Additional reports or information to identify potential impacts and mitigation measures to fish and wildlife habitat conservation areas may be required if deemed necessary.

A. Minor Development. Projects processed by the City according to the provisions governing limited administrative review within a fish or wildlife habitat conservation area or its buffer shall disclose, at a minimum, the following information on a site plan drawn to scale:
    1. The location and boundaries of the habitat conservation area;
    2. The location and dimensions of all existing and proposed buildings, roads and other improvements, and their physical relationship to the habitat conservation area;
    3. The location and type of any proposed buffers, including the identification of any other protective measures.
B. Major Development. Projects processed by the City according to the provisions governing full administrative review or quasi-judicial review within a fish or wildlife habitat conservation area or its buffer shall provide the following information, in addition to the information described in subsection A of this section:
    1. Habitat boundary survey and ranking evaluation as defined in this chapter;
    2. Habitat management and mitigation plan as defined in this chapter;
    3. A drainage and erosion control plan as defined in this chapter; and
    4. A grading and excavation plan as defined in this chapter.

3.050 Habitat boundary survey and ranking evaluation.

A. A wildlife habitat boundary survey and ranking evaluation shall be conducted by a wildlife biologist who is knowledgeable of wildlife habitat within North Central Washington and who derives his/her livelihood from employment in this occupation. The wildlife habitat boundary shall be field staked by the biologist and surveyed by a land surveyor for disclosure on all final plats, maps, etc.
B. The Management Recommendations for Washington's Priority Habitats and Species may be used as a tool for identifying and delineating the habitat boundary.
C. The City may waive the requirement for the survey for minor development as defined in this chapter, if:
    1. The proposed development is not within the extended proximity of the associated habitat;
    2. There is adequate information available on the area proposed for development to

determine the impacts of the proposed development and appropriate mitigating measures; and

3. The applicant provides voluntary deed restrictions that are approved by the City.

D. An evaluation of any unranked fish and wildlife habitat is necessary when there is a proposed development or activity to be located adjacent to or within an area containing a wetland within the shoreline management zone.

E. The evaluation shall be used to determine if the fish and wildlife habitat is a Level 1 Critical or a Level 2 Awareness fish and wildlife habitat conservation area. It shall evaluate those factors identified in Chapter 3 that are used to distinguish between these categories, and it shall take into consideration historical information on the area in question, the dynamic nature of habitat conservation areas and an evaluation of the entire habitat conservation area, as opposed to isolated indicators on individual parcels.

F. The wildlife habitat boundary and associated buffer shall be identified on all plats, maps, plans and specifications submitted for the project.

3.060 Fish/wildlife habitat management and mitigation plan.

A. A fish/wildlife habitat management and mitigation plan shall be prepared by a wildlife biologist who is knowledgeable of wildlife habitat within North Central Washington and who derives his/her livelihood from employment in this field.

B. The fish/wildlife habitat management and mitigation plan shall demonstrate, when implemented, that there shall be no net loss of ecological function of habitat.

C. The fish/wildlife habitat management and mitigation plan shall identify how impacts from the proposed project shall be mitigated, as well as the necessary monitoring and contingency actions for the continued maintenance of the classified habitat conservation area and its associated buffer.

D. The fish/wildlife habitat management and mitigation plan shall contain a report containing, but not limited to, the following information:

1. Vicinity maps, regional 1:24,000 and local 1:4,800;
2. Location maps at a scale consistent with the City of Cashmere design guidelines;
3. A map or maps indicating the boundary of the habitat conservation areas; the width and length of all existing and proposed structures, utilities, roads, easements; wastewater and stormwater facilities; adjacent land uses, zoning districts and comprehensive plan designations;
4. A description of the proposed project including the nature, density and intensity of the proposed development and the associated grading, structures, roads, easements, wastewater facilities, stormwater facilities, utilities, etc., in sufficient detail to allow analysis of such land use change upon the habitat conservation area;
5. A detailed discussion of surface and subsurface hydrologic features both on and adjacent to the site where the City determines appropriate;
6. A description of the vegetation in the habitat conservation area, on the overall project site and adjacent to the site;
7. A detailed description of the proposed project's effect on the habitat conservation area, and a discussion of any federal, state or local management recommendations

which have been developed for the species or habitats in the area;

8. A discussion of the following mitigation alternatives as they relate to the proposal:
    a. Avoiding the impact altogether by not taking a certain action or parts of an action,
    b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts,
    c. Rectifying the impact by repairing, rehabilitating or restoring the affected environment,
    d. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments;
9. A plan by the applicant that explains how any adverse impacts created by the proposed development will be mitigated, including without limitation the following techniques:
    a. Establishment of buffer zones,
    b. Preservation of critically important plants and trees,
    c. Limitation of access to the habitat conservation area,
    d. Seasonal restriction of construction activities,
    e. Establishment of a timetable for periodic review of the plan;
    f. Proposed Mitigation. Mitigation must be designed to result in no net loss of ecological functions . Mitigation ratios shall be used when adverse impacts to aquatic habitat, or wildlife buffers are unavoidable. Compensatory mitigation shall restore, create, rehabilitate or enhance equivalent or greater ecological functions. The onsite mitigation ratio, (mitigation amount: disturbed area), shall be at a minimum ratio of 1:1 for development within aquatic habitat and shoreline buffers . A ratio of 2:1 shall apply to native vegetation removal within these areas. However, depending on the nature and extent of impacts and proposed mitigation, a reduction in the ratio may be allowed or an increase in the ratio may be required to meet the no net loss of ecological functions standard if justified in a plan submitted to the responsible local government. (WAC 173-26-201(2)(e)) Mitigation for diverse, high quality habitat or offsite mitigation may require a higher level of mitigation. Mitigation and management plans shall evaluate the need for a higher or lower mitigation ratio on a site by site basis, dependent upon the ecological functions and values provided by the habitat and depending on the nature and extent of impacts and proposed mitigation.
10. A detailed discussion of ongoing management practices which will protect the habitat conservation area after the project site has been fully developed, including proposed monitoring, contingency, maintenance and surety programs.

3.070 General standards.

The following minimum standards shall apply to all development activities occurring within designated habitat conservation areas and/or their associated buffers. For minor developments within a Level 2 Awareness area, as defined herein, the City may waive the requirements for

management and mitigation plans where it is determined by the City that there will be little or no impact to the habitat conservation area.

A. Level 1 Critical habitat conservation areas will be left undisturbed, unless the development proposal involves appropriate mitigation and enhancement measures, as determined on a site-specific basis.

B. Level 2 Awareness habitat conservation areas will be afforded the maximum amount of protection possible through appropriate development techniques such as establishing critical area buffers, access limitations, enhancement of the habitat conservation areas, etc. To ensure long-term success of a project containing habitat conservation areas, a comprehensive habitat management and mitigation plan will be submitted to the City for its approval. Such plans will provide for sufficient monitoring and contingencies to ensure natural habitat conservation area persistence.

C. Whenever possible, the maximum amount of vegetation will be maintained in its natural state and will be disturbed only as minimally necessary for the development.

D. Riparian vegetation will not be removed unless there are no other alternatives available. When it is necessary, only those areas of vegetation that are absolutely unavoidable may be cleared, and shall be revegetated with natural riparian vegetation as soon as possible.

E. Revegetation of disturbed areas which re-establishes desirable native plants adapted to the site that enhance applicable fish and wildlife populations will be, at a minimum, encouraged, as specified in the conditions for approval of the development. Said revegetation will be maintained in good growing condition, as well as being kept free of noxious weeds.

F. When appropriate, fencing standards that protect wildlife, as well as providing for the operation and protection of a particular land use, may be part of the conditions placed on approval of a development application.

G. Access restrictions may be necessary which protect fish and wildlife habitat conservation areas, particularly during critical times of the year.

H. Particularly in instances where a development proposal involves more intense uses, all or part of the required open space (common and/or private) will be dedicated to fish and wildlife habitat conservation, based on the extent and importance of the habitat.

I. In certain instances it may be necessary to provide vegetation screenings and to provide controls on domestic animals to protect the function of critical habitat areas by reducing the potential for harassment from people and/or domesticated animals.

J. Appropriate buffer areas shall be maintained between all permitted uses and activities and designated habitat conservation areas.

    1. All buffers shall be measured on a horizontal plane from the habitat edge, as established by the approved habitat boundary survey. For buffers adjacent to aquatic habitat, distances shall be measured from the ordinary high water mark (OHWM), or from the top of the bank where the OHWM cannot be identified. The distance of the buffer shall be increased to include stream-side wetlands which provide overflow storage for storm waters, feed water back to the water body during low flows or provide shelter and food for fish. In braided channels, the OHWM or top of bank shall be defined so as to include the entire stream feature.

2. All buffer areas shall be temporarily fenced between the construction activity and the buffer with a highly visible and durable protective barrier during construction to prevent access and protect the designated habitat conservation area and associated buffer. This requirement may be waived by the City if an alternative to fencing which achieves the same objective is proposed and approved.
3. Except as otherwise allowed, buffers shall be retained in their natural condition. Any habitat created, restored or enhanced as compensation for approved habitat alterations shall have the standard buffer required for the category of the created, restored or enhanced habitat.
4. The width of the buffer may be increased by the City for a development project on a case-by-case basis when a larger buffer is necessary to protect the designated habitat conservation area function and value. The determination shall be based on site-specific and project-related conditions which include without limitation:
   a. The designated habitat conservation area is used for feeding, nesting and resting by species proposed or listed by the federal or state government as endangered, threatened, sensitive, candidate, monitor or critical; or if it is an outstanding potential habitat for those species or has unusual nesting or resting sites such as heron rookeries or raptor nesting trees;
   b. The adjacent land is susceptible to severe erosion and erosion control measures will not effectively prevent adverse habitat impacts;
   c. The proposed development adjacent to the designated habitat conservation area would be a high intensity land use.
5. Standard buffer widths may be modified by the City for a development proposal by averaging buffer widths based on a report submitted by the applicant and prepared by a qualified professional approved by the City (e.g., wildlife biologist), and shall only be allowed where the applicant demonstrates all of the following:
   a. Averaging is necessary to avoid an extraordinary hardship to the applicant caused by circumstances peculiar to the property;
   b. The designated habitat conservation area contains variations in sensitivity due to existing physical characteristics;
   c. The width averaging will not adversely impact the designated habitat conservation area's functional value;
   d. The total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging; and
   e. The buffer width shall not be reduced, at any location, by more than 25 percent of the required buffer described below, and in no case may the buffer be less than 25 feet in width.

K. Aquatic Habitat Conservation Areas. Aquatic habitat conservation areas are those riparian and water-ward areas which may support both fish and wildlife species. All development within designated aquatic habitat conservation areas other than the Wenatchee River and Mission Creek (see SMP Section 4.5, Shoreline Buffers and Vegetation Conservation) shall comply with the following minimum standards:
   1. Level 1 Critical Buffer Areas.

a. Minor development: 75 feet;
b. Major development: 100 feet.

2. Level 2 Awareness Buffer Areas.
   a. Minor development: 50 feet;
   b. Major development: 75 feet.
3. Land divisions within designated aquatic habitat conservation areas shall require a minimum lot frontage along the protective buffer or shoreline of 100 feet, measured in a straight line, and required buffer areas shall be dedicated as open space tracts, nonbuildable lot(s), buffer areas and/or common areas, with ownership and control transferred to a homeowner's association.

L. Wildlife Conservation Areas. The width of a designated wildlife habitat conservation area buffer shall be as follows:
   1. Level 1 Critical: 100 feet.
   2. Level 2 Awareness: 75 feet.

3.080 Specific standards.

The following standards shall apply to the activity identified below, in addition to the general standards outlined in Section 3.070.

A. Road Repair and Construction. When no other practical alternative exists, public or private road repair, maintenance, expansion or construction may be authorized within a designated habitat conservation area, subject to the following minimum standards:
   1. The road shall serve multiple properties;
   2. No significant adverse impacts to the designated habitat conservation area shall result from the repair, maintenance, expansion or construction of any public or private road;
   3. The road shall provide for the location of public utilities, pedestrian or bicycle easements, viewing points, etc.; and
   4. Road repair and construction is the minimum necessary to provide safe traveling surfaces.

B. Major Developments. All major developments processed by the City according to the provisions governing full administrative review or quasi-judicial review authorized within a designated habitat conservation area shall comply with the following minimum standards:
   1. Inundated and/or submerged lands shall not be used in calculating minimum lot area for proposed lots;
   2. A habitat management and mitigation plan shall be required for major developments containing Level 1 Critical habitat conservation areas, and may be required for major developments containing Level 2 Awareness habitat conservation areas;
   3. All plats shall disclose the presence on each residential lot of one building site, including access, that is suitable for development and which is not within the designated habitat conservation area or its associated buffer;
   4. All designated habitat conservation areas and their associated buffers shall be clearly

identified on all final plats, maps, documents, etc.;

5. Designated habitat conservation areas and their associated buffers shall be designated and disclosed on the final plats, maps, documents, etc. as open space tracts nonbuildable lots, buffer areas or common areas, with ownership and control transferred to a homeowner's association. Associated habitat conservation area buffers may alternatively be designated and disclosed on the final plats, maps, documents, etc. as an easement or covenant encumbering the property.

C. Surface Water Management. When no other practical alternative exists, surface water management activities may be authorized within an aquatic habitat area, subject to the following minimum standard:
   1. Aquatic habitat areas may be used for retention/detention facilities, subject to all of the following criteria:
      a. The functions and water quality of the aquatic habitat area or buffer shall not be adversely impacted;
      b. The rate of flow into or the hydro-period of the aquatic habitat area shall not increase above natural flow rates;
      c. All surface water discharged from impervious surfaces shall be treated by oil/water separators prior to entering an aquatic habitat area or buffer; and
      d. The temperature of the aquatic habitat area shall not be increased above natural temperatures.
   2. New surface water discharges to wetlands from detention facilities, pre- settlement ponds, or other surface water management structures may be authorized, subject to all of the following criteria:
      a. The discharge does not increase the rate of flow into or the hydro-period of the wetland above the natural rates;
      b. All surface water discharged from impervious surfaces shall be treated prior to entering a wetland or buffer; and
      c. The water quality of the wetland is not decreased.

D. Stream Crossings. Expansion or construction of stream crossings may be authorized within a designated habitat conservation area, subject to the following minimum standards:
   1. Bridges are required for streams that support salmonids, unless culvert design and construction ensures proper passage opportunities;
   2. All crossings using culverts shall use superspan or oversized culverts;
   3. Crossings shall not occur in salmonid spawning areas unless no other feasible crossing site exists;
   4. Bridge piers or abutments shall not be placed in either the floodway or between the ordinary high water marks unless no other feasible alternative placement exists;
   5. Crossings shall not diminish flood carrying capacity; and
   6. Crossings shall serve multiple properties whenever possible.

E. Trails and Trail-Related Facilities. Construction of public and private trails and trail-related facilities, such as picnic tables, benches, interpretive centers and signs, viewing platforms and campsites may be authorized within a habitat conservation area, subject

to the following minimum standards:

1. Trail facilities shall, to the extent feasible, be placed on existing road grades, utility corridors, or any other previously disturbed areas;
2. Trail facilities shall minimize the removal of trees, shrubs, snags and important habitat features;
3. Viewing platforms, interpretive centers, campsites, picnic areas, benches and their associated access shall be designed and located to minimize disturbance of wildlife and/or critical characteristics of the designated habitat conservation area;
4. Trail facilities shall be located at least a distance equal to the width of the trail corridor away from the habitat conservation area edge, as established by the approved boundary survey; and
5. All facilities shall be constructed with materials complementary to the surrounding environment.

F. Utilities. When no other practical alternative exists, construction of utilities within a designated habitat conservation area may be authorized, subject to the following minimum standards:

1. Utility corridors shall be jointly used;
2. Corridor construction and maintenance shall protect the designated habitat conservation area, and shall be aligned to avoid cutting trees greater than six inches in diameter at breast height when possible;
3. No pesticides, herbicides or other hazardous or toxic substances shall be used;
4. Utility corridors, including maintenance roads, authorized by the City, shall be located at least a distance equal to the width of the utility corridor away from the habitat area edge;
5. Corridors shall be revegetated to pre-construction densities with appropriate native vegetation immediately upon completion of construction, or as soon thereafter as possible given seasonal growing constraints. The utility purveyor shall provide an assurance device or surety in accordance with the CMC which ensures that such vegetation survives;
6. Any additional corridor access for maintenance shall be provided as much as possible at specific points rather than by parallel roads. If parallel roads are necessary they shall be no greater than 15 feet in width, and shall be contiguous to the location of the utility corridor on the side opposite the designated habitat conservation area;
7. Construction of sewer lines within designated habitat conservation areas which are necessary to meet state and/or local health code requirements shall not adversely impact the function and quality of the designated habitat conservation area.

CHAPTER 4 - AQUIFER RECHARGE AREAS

Sections:

4.010 Permitted uses and activities.

Uses and activities allowed within designated aquifer recharge areas in shoreline jurisdiction are those uses permitted by this Shoreline Master Program subject to the provisions of this chapter.

4.020 Classification.

A. Aquifer recharge areas will be rated according to the vulnerability of the aquifer, with vulnerability being the combined effect of susceptibility to contamination and the contamination loading potential. The categories of vulnerability shall be high, medium and low, with high vulnerability being characterized by a combination of land uses that contribute to contamination that may degrade ground water, and hydrogeologic conditions that facilitate that degradation.
    1. Hydrogeologic susceptibility will be characterized by looking at the following attributes:
        a. Depth to ground water;
        b. Aquifer properties such as hydraulic conductivity and gradients;
        c. Soil (texture, permeability, and contaminant attenuation properties);
        d. Characteristics of the vadose zone including permeability and attenuation properties; and
        e. Other relevant factors.
    2. Contamination loading potential can be evaluated by considering the following:
        a. General land use;
        b. Waste disposal sites;
        c. Agriculture activities;
        d. Well logs and water quality test results;
        e. Density of septic systems in use in the area; and
        f. Other information about the potential for contamination.
B. Aquifer recharge areas shall be classified according to the following system:
    1. Level 1 Critical aquifer recharge areas shall be those areas found to have a high vulnerability rating.
    2. Level 2 Awareness aquifer recharge areas shall be those areas found to have a medium vulnerability rating.

4.030 Designation.

All existing areas of the City in shoreline jurisdiction classified according to the provisions contained in this chapter, as determined by the City, are designated as aquifer recharge areas. Because there is insufficient scientific data at this time to determine with any precision and/or certainty the location of areas having a critical recharging effect on aquifers used for potable water, specific designations have not been made. However, the most current, accurate, and complete scientific and technical information available suggests that using a vulnerability determination system based on the above classification system will allow the City to designate critical aquifer recharge areas using a conservative approach, which provides a worst case scenario for contaminant movement in the subsurface. As areas are determined to be either a Level 1 Critical or Level 2 Awareness aquifer recharge area, they will be included on a map or maps that are maintained by the City. Additionally, if any of the following areas are established within the City's urban growth area, they shall be included on these maps:

A. Sole source aquifer recharge areas designated pursuant to the Federal Safe Drinking Water Act;
B. Areas established for special protection pursuant to the Washington State groundwater management program;
C. Areas designated for wellhead protection pursuant to the Federal Safe Drinking Water Act; and
D. Aquifer recharge areas mapped and identified by a qualified ground water scientist.

4.040 Application requirements – Vulnerability determination system – Procedures, criteria.

A. Development permit applications shall provide appropriate information on forms provided by the City, including without limitation the information described below. Additional reports or information to identify potential impacts and mitigation measures to aquifer recharge areas may be required if deemed necessary.
B. The procedure for determining if a development proposal must complete a vulnerability rating shall be as follows:
    1. The applicant shall submit a certified statement with the application materials indicating which of the criteria identified in subsection C of this section apply to the development proposal, if any. The application will not be considered complete until this certified statement is submitted.
    2. If the applicant's statement asserts that the criteria do not apply, as identified in subsection (B)(3) of this section, to the development proposal, the City will accept the statement and proceed with the development permit review. However, if the City has or obtains information prior to the permit or approval being finalized that clearly establishes the applicant's statement is incorrect, the applicant will be advised in writing of the inconsistent information and must either:
        a. Provide an amended statement adding the evaluation criteria as being applicable and determine the vulnerability rating of the development pursuant to Section 4.050; or
        b. Present sufficient countering information clearly establishing that the basis for

the City's concern is incorrect.

C. If the applicant selects to proceed under subsection (B)(2)(b) of this section, after receiving the applicant's information, the City shall review the information and obtain whatever additional assistance may be required to resolve the issue. The final determination as to whether a determination of vulnerability is required shall be made by the City.
   1. If a development proposal meets the criteria in subsections (C)(1), (2), (3) or (4) of this section, or if the site or development proposal meets any two of the remaining criteria, the application shall determine the vulnerability rating for the development proposal according to Section 4.050.
   2. If the development has a high or medium vulnerability rating, the development shall be subject to the development standards contained within this chapter.

D. The applicant shall be required to determine the vulnerability rating for any development permit, not otherwise exempted from this chapter, if the site or development meets criteria (C)(1), (2), (3), or (4) of this section or meets two or more of the remaining criteria below:
   1. The development proposal is within a wellhead protection area designated under Chapter 246-290 WAC, Public Water Supplies;
   2. The development proposal is within an aquifer recharge area mapped and identified by a qualified ground water scientist;
   3. The site will be utilized for processing, storing, or handling hazardous substances (as now or hereafter defined in Chapter 70.105D RCW, Hazardous Waste Cleanup – Model Toxics Control Act) in applications or quantities larger than is typical of household use;
   4. The site will be utilized for hazardous waste treatment and storage as set forth in Chapter 70.105 RCW, Hazardous Waste Management, as now or hereafter amended;
   5. The site contains highly permeable soils as designated in the NRCS Soil Survey for the Chelan area;
   6. The development proposal is within a sole source aquifer recharge area designated pursuant to the Federal Safe Drinking Water Act;
   7. The development proposal is within an area established for special protection pursuant to a groundwater management program, Chapter 90.44 RCW, Regulations of Public Ground Waters, Chapter 90.48 RCW, Water Pollution Control, and Chapter 90.54 RCW, Water Resources Act of 1971, and Chapter 173-100 WAC, Ground Water Management Areas, and Chapter 173-200 WAC, Water Quality Standards for Ground Waters of the State of Washington;
   8. The development proposal involves a major or short subdivision and includes present or future plans to construct three or more dwelling units where the dwelling units will not be connected to a public sewer system and any of the lots are less than one net acre in size;
   9. The development proposal involves a commercial and/or industrial site that is not on a public sewer system and the main structure exceeds 4,000 square feet;

10. The development is within 200 feet of the ordinary high water mark of a perennial river, stream, lake or pond.

4.050 Determining vulnerability rating.

A. General. The vulnerability matrix is used to determine the vulnerability of the development and to rate it as a high, medium or low rating. This can be done by determining the "contaminant loading potential" of a proposed land use and the natural "susceptibility" of the site as outlined in this chapter and creating a numerical vulnerability value for a proposed land use. When a proposed use is determined to have a medium or high vulnerability rating, the protection measures described in this chapter shall be implemented that protect the potable water supply.

B. Determining Susceptibility. There are three basic components to determine a site's susceptibility, as follows:

1. Permeability of the Vadose Zone. The vadose zone is composed of both the soil and the geologic materials underlying the soil. To adequately determine the overall ease with which water will travel from land surface to the aquifer, it is necessary to determine the overall permeability of both soil and geologic media. Soil permeability can be determined through use of the NRCS Soil Survey for the Chelan Area, particularly Table 6. The values shown on these pages are given in the inches per hour that water moves downward through a saturated soil. A determination of the permeability of the geologic material underlying the soil is more problematic.

a. Incrementally, the permeability of local soils (upper vadose zone) is grouped into four ranges that are assigned a relative value to be used for determining susceptibility on the matrix. Where conclusive information does not exist for permeability of the soil, a relative value of three will be assigned.

Soil Permeability Table Based on Soil Survey

Condensed Description	Soil Survey Description	Permeability (in/hr)	Permeability (cm/sec)	Rating
Very Slow	Very Slow	< 0.06	< 0.00423	0
Slow	Slow	0.06 0.20	0.00423 0.0141	1
	Moderately Slow	0.20 0.60	0.0141 0.0423	
Moderate	Moderate	0.60 2.0	0.0423 0.1411	2
	Moderately Rapid	2.0 6.0	0.1411 0.4233	
Rapid	Rapid	6.0 20	0.4233 1.411	3
	Very Rapid	> 20	> 1.411	

b. Permeability of the lower vadose zone can be estimated using the Geologic Matrix Table below by determining the material type and assigning the appropriate permeability range for the material(s) overlying the uppermost aquifer. In cases where heterogeneous materials are encountered, the least permeable layer with a thickness of not less than five feet shall determine the overall permeability to be applied to the entire vadose zone, excluding the soil

layer. Where conclusive information does not exist for permeability of the geologic matrix, a relative value of three will be assigned.

Geologic Matrix Table

Condensed Description	Geologic Matrix	Permeability (cm/sec)	Rating
Very Slow	Unfractured Igneous or Metamorphic Bedrock, Shale	10-13 10-9	0
	Marine Clay, Clay, Dense Sandstone, Hardpan	10-9 10-7	
Slow	Loess, Glacial Till, Fractured Igneous or Metamorphic Bedrock	10-8 10-5	1
	Silt, Clayey Sands, Weathered Basalt	10-7 10-3	
Moderate	Silty Sands, Fine Sands, Permeable Basalt	10-4 10-1 (0.0001 0.1)	2
	Clean Sands, Karst Limestone	>0.1 1.0	
Rapid	Sand and Gravel	>1.0 10	3
	Gravel	>10 100+	

2. Depth to Groundwater. Depth to groundwater can be determined by utilizing local well log information or specific well information for the site. Depth to groundwater is also assigned a relative value used for determining susceptibility on the matrix. Where conclusive information does not exist for depth to groundwater, a relative value of three will be assigned.

Depth to Groundwater Table

Condensed Description	Depth to Water (Feet)	Rating
Very Low	Confined Aquifer	0
	> 50	
Low	25 50	1
Moderate	10 25	2
High	0 10	3

3. Slope. Slope, or gradient, is related to the infiltration characteristics of an area. The steeper the slope, the less infiltration of surface waters occur. Slope is assigned a relative value used for determining susceptibility on the matrix. Where conclusive information does not exist for slope, a relative value of three will be assigned.

Slope – As a Percent	Slope Relative Value
>45%	0
30% – 45%	1

15% – 30%	2
<15%	3

C. Determining the Susceptibility Rating. A susceptibility rating is determined by adding the relative values of permeability of the soils and geologic matrix of the vadose zone, depth to groundwater and slope. This is a baseline determination for susceptibility. The range of values are as follows:
   1. High susceptibility rating equals total range from eight to 12;
   2. Medium susceptibility rating equals total range from four to seven;
   3. Low susceptibility rating equals total range from zero to three.

D. Determining the Contaminant Loading Rating. Contaminant loading potential is dependent on the presence of critical materials on the site. A critical material is a substance present in sufficient quantity that its accidental or intentional release would result in the impairment of the aquifer water to be used as potable drinking water.
   1. For the purpose of administration of this section, the City will maintain a critical materials use activity list, which is a list of commercial and industrial activities known to use critical materials, coupled with the names of critical materials normally associated with the activity. The following situations will be considered as having a high contaminant loading rating, unless the project proponent provides assurances otherwise:
      a. Proposed activities fitting one of the general business descriptions provided or having one of the specified Standard Industrial Classification (SIC) codes identified on the City's critical materials use activity list;
      b. Sites or uses that the City believes would be utilized for processing, storing or handling hazardous substance(s) (as now or hereafter defined in Chapter 70.105D RCW, Hazardous Waste Cleanup – Model Toxics Control Act) in applications or quantities larger than is typical of household use;
      c. Sites that the City believes will be utilized for hazardous waste treatment and storage as set forth in Chapter 70.105 RCW, Hazardous Waste Management, as now or hereafter amended, but may not be covered in the critical materials use activity list;
      d. Other contaminants and/or SIC codes that are not currently found on the criti- cal materials use activity list that are subsequently determined by the City to have a high contaminant loading rating.

      Those uses or activities determined not to have a high contaminant loading rating are considered to have a low contaminant loading potential and rating.
   2. The following process shall be used to determine whether or not critical materials are involved:
      a. An initial screening will be performed by the City by comparing the proposed use and any other pertinent information provided by the proponent at his/her expense with the critical materials use activity list. The City will exercise any discretion in judgment in the favor of aquifer protection.
      b. If the proposed use is determined to meet one of the criteria under subsection

(D)(1) of this section, the City shall require the applicant to provide a list of materials, including quantities to be used, stored or transported in conjunction with the proposed activity. Additional information may be required by the City to be provided by the proponent at his or her expense.

c. After the review of the information supplied by the applicant, the City will either confirm the designation as a critical materials use activity or nullify the tentative designation.

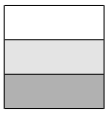
d. If the designation as a critical materials use activity is confirmed, the applicant may respond by accepting the designation as a critical materials use activity or he/she may appeal the designation through the procedures governing appeals of administrative decisions, according to CMC Title 14. Where an appeal is filed, the Washington Department of Ecology, the Washington Department of Health and the Chelan-Douglas Health District shall be notified of all appeal proceedings.

E. Vulnerability Matrix. A determination of a high, medium, or low vulnerability rating is made by the City from the vulnerability matrix by identifying susceptibility and contaminant loading ratings, as identified above (susceptibility = high [eight to 12], medium [four to seven] or low [zero to three]; contaminant loading = high or low). After determining the susceptibility and contaminant loading ratings for the proposed use and site, the appropriate box on each axis of the vulnerability matrix below will be checked to determine the vulnerability rating. The vulnerability of the site is then determined by the intersection of the susceptibility rating and the contaminant loading rating to be low, medium, or high.

Vulnerability Matrix

CONTAMINANT LOADING →

SUSCEPTIBILITY		LOW	HIGH	General Description (susceptibility)
	0 TO 3			Typically low permeability. Depth to groundwater is fairly deep and fairly significant slopes.
	4 TO 7			Higher permeability and shallower depth to groundwater. Less slope potential.
	8 TO 12			Extremely permeable soils. Shallow depth to groundwater and fairly flat terrain.



4.060 General standards.

The following minimum standards shall apply to all development activities determined to have a high or medium vulnerability rating, as determined by this chapter.

A. Development activities within an aquifer recharge area shall be designed, developed and operated in a manner that will not potentially degrade groundwater resources.
B. Alternative site designs, phased development and/or groundwater quality monitoring may be required to reduce contaminant loading where site conditions indicate that the proposed action will potentially degrade groundwater quality.
C. Open space may be required on development proposals overlying areas that are highly susceptible to contamination of groundwater resources.
D. When wells are required to be abandoned, the applicant shall ensure that they are abandoned according to the State Department of Ecology requirements.
E. Known contaminants shall be removed from stormwater runoff prior to their point of entry into surface or groundwater resources using available and reasonable best management practices.
F. Changes in occupancy and/or use of an existing site, and/or expansions of existing activities are subject to complete evaluation by the City under the provisions of this chapter.

4.070 Specific standards.

The following standards shall apply to the activity identified below, in addition to the general standards outlined in Section 4.060.

A. Any agricultural activities shall incorporate best management practices concerning waste disposal, fertilizer use, pesticide use, and stream corridor management. If necessary, farmers shall seek technical assistance from the Chelan County Conservation District, WSU Cooperative Extension Agent and local field agents.
B. Where otherwise permitted by applicable zoning regulations, landfills, junkyards, salvage yards and auto wrecking yards are prohibited within designated critical aquifer recharge areas. Landfills, junkyards, salvage yards and auto wrecking yards that are proposed to be located outside of designated critical aquifer recharge areas and that have a high or medium vulnerability rating must satisfactorily demonstrate that potential negative impacts to the groundwater would be overcome in such a manner as to prevent adverse impacts to groundwater.
C. Fertilizer, herbicide and pesticide management practices of schools, parks, golf courses and other nonresidential facilities that maintain large landscaped areas shall be evaluated in relation to best management practices as recommended by the Cooperative Extension Service.
D. Commercial, industrial and/or mining uses shall comply with the following minimum

provisions:

1. For the purposes of this section, all forms of mining activities shall be considered an industrial use.
2. All commercial and industrial uses that are rated as having a medium or high vulnerability shall submit a contingency plan that identifies the following:
   a. Types of hazardous wastes that would be used for the proposed land use.
   b. On-site containment facilities designed to handle accidental releases of critical materials.
   c. Spill response and notification procedures.
3. All activities designated as critical materials use activities shall only be approved so that:
   a. Facilities will be designed and built so that any spilled or leaked materials are contained on site; and
   b. Facilities will be designed and built so that any spilled or leaked materials cannot infiltrate into the ground; and
   c. No permanent disposal of any waste containing critical materials shall be allowed on site.
4. Commercial or industrial activities designated as critical materials use activities shall have specially designed and installed storm runoff drainage facilities in areas where spills might occur. Such facilities shall be designed and installed to:
   a. Prevent the commingling of storm runoff and critical materials spills; and
   b. Enhance spill cleanup procedures.
5. Mining activities in areas determined to have a medium or high vulnerability shall comply with the following conditions:
   a. Six-foot fencing shall be provided and maintained in good condition at all times in the following locations:
      i. Exterior boundary of any portion of any site on which active operations exist; and
      ii. Exterior boundary of any portion of the site that has been mined and not yet rehabilitated;
   b. No excavation within 100 feet of a well or surface water used for potable drinking water is allowed;
   c. No excavation into an aquifer used for potable drinking water is allowed;
   d. The operators shall comply with all existing water quality monitoring regulations of WSDOE and the Chelan-Douglas health district;
   e. A drainage channel shall be constructed around active gravel pit areas to keep surface runoff from outside the pit excavation from entering the pit areas;
   f. Fuel storage areas and service facilities shall incorporate provisions to prevent lubricants and petroleum products from contaminating either pit areas or drainage channels;
   g. No liquid, asphalt, cement, or water used in a mining operation shall be disposed of in the bottom of a pit;
   h. A protective eight-foot high berm or retaining wall shall be required adjacent to

property lines where the edge of a pit is within 100 feet of a street or railroad right-of- way;

i. The use of fertilizers, pesticides, herbicides, and critical materials shall not be allowed within 50 feet of an active pit;

j. A sufficient amount of topsoil or suitable material shall be retained on site for revegetation/rehabilitation purposes;

k. Reclamation plans for these sites shall include:

i. A specification of the amount of materials to be left between the aquifer high-water mark (or elevation) and the final grade of the reclaimed site;

ii. Physical barriers, as required in subsection (D)(5)(h) of this section, shall remain unless they are specifically permitted to be removed in a subsequent land use decision by the hearing body; and

iii. Provisions shall be made for limitations of access to, and activities within, the rehabilitated site until the use of the land is changed;

l. In rehabilitated gravel pits over an aquifer used for a potable water source, new uses requested for the property may be limited or specifically conditioned as determined by the appropriate hearing body; and

m. All mining activities shall be reclaimed per a reclamation plan approved by the Washington State Department of Natural Resources.

E. Utility facilities shall be reviewed and approved consistent with the requirements of subsection D of this section.

F. Underground storage tanks and on-site sewage disposal systems are prohibited within designated critical aquifer recharge areas. Underground storage tanks and on-site sewage disposal systems that are proposed to be located outside of designated critical aquifer recharge areas and that have a high or medium vulnerability rating must satisfactorily demonstrate that potential negative impacts to the groundwater would be overcome in such a manner as to prevent adverse impacts to groundwater.

G. All residential land divisions within the City of Cashmere City limits shall be connected to the City's sanitary sewage collection and treatment facilities. Where an area subject to a land division process occurs within a designated aquifer recharge area, as described by this chapter, a notation shall appear on the face of the final plat indicating the aquifer recharge area designation, and referencing the requirements of this chapter.

H. Wood treatment facilities shall conform to the provisions of subsection D of this section. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces, both natural and man made, are prohibited.

I. As defined and regulated in Chapter 173-218 WAC, Underground Injection Control Program, Class I, III and IV underground injection wells are prohibited. Class II injection wells are permitted under Chapter 173-218 WAC by the Washington State Department of Ecology in conjunction with the Washington State Department of Natural Resources. Class V injection wells, involving the injection of critical materials, may be prohibited by the Washington State Department of Ecology or a permit may be required by said agency. In addition, commercial or industrial uses proposing the injection of critical materials are subject to the provisions of this chapter.

CHAPTER 5 - FREQUENTLY FLOODED AREAS

Sections:

5.010 Statutory authorization.

The legislature of the state has delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City council ordains as set forth in this chapter.

5.020 Findings of fact.

A. The flood hazard areas identified by the FEMA maps and study adopted in this chapter are subject to periodic inundation which results in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities and, when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.

5.030 Statement of purpose.

It is the purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

A. To protect human life and health;

B. To minimize expenditure of public money and costly flood control projects;
C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
D. To minimize prolonged business interruptions;
E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
F. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

5.040 Methods of reducing flood losses.

In order to accomplish its purposes, this chapter includes methods and provisions for:

A. Restricting or prohibiting uses which are 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;
B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
C. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers which help accommodate or channel floodwaters;
D. Controlling filling, grading, and other development which may increase flood damage; and
E. Preventing or regulating the construction of flood barriers that will unnaturally divert floodwaters or may increase flood hazards in other areas.

5.050 Lands to which this chapter applies.

This chapter shall apply to all areas of special flood hazards within the shoreline jurisdiction of the City.

5.060 Basis for establishing the areas of special flood hazard.

Within shoreline jurisdiction, the areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of Cashmere" dated September 30, 2004, with accompanying flood insurance maps is adopted by reference and declared to be a part of this chapter. The Flood Insurance Study is on file at City Hall, 101 Woodring, Cashmere, Washington. The best available information for flood hazard area identification shall be the basis for regulation until a new FIRM is issued which incorporates the date utilized. At such time the City adopts new FIRMS, a SMP amendment will be required.

5.070 Interpretation.

In the interpretation and application of this chapter, all provisions shall be:

A. Considered as minimum requirements;
B. Liberally construed in favor of the governing body; and
C. Deemed neither to limit nor repeal any other powers granted under state statutes.

Potential impacts to wetlands, fish and wildlife habitat and other critical areas shall be addressed in accordance with the applicable sections of this chapter.

5.080 Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter 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 chapter shall not create liability on the part of the City, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

5.090 Establishment of development permit.

Application for Development Permit. Application for a development permit within areas of special flood hazard shall be made on forms furnished by the City and may include but not be limited to: plans in duplicate drawn to scale showing the nature, locations, 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;
B. Elevation in relation to mean sea level to which any structure has been floodproofed;
C. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section 5.150(B); and
D. Description of the extent to which a watercourse will be altered or relocated as a result of the proposed development.

5.100 Designation of the planning director.

The planning director is appointed to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.

5.110 Duties and responsibilities of the planning director.

Duties of the planning director shall include, but not be limited to:

A. Review all development permits to determine:
    1. That the permit requirements of this chapter have been satisfied;

2. That all necessary permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required;
3. If the proposed development is located in the floodway, assure that the provisions of Section 5.160 are met.

B. When base flood elevation data has not been provided in accordance with Section 5.070, the City 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 5.150 and 5.160.

C. Obtain and maintain the following information:
1. Where base flood elevation data is provided through the Flood Insurance Study or acquired as in subsection B of this section, obtain and record 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;
2. For all new or substantially improved floodproofed structures:
   a. Verify and record the actual elevation (in relation to mean sea level); and
   b. Maintain the floodproofing certifications required in Section 5.100(B)(3);
3. Maintain for public inspection all records pertaining to the provisions of this chapter.

D. Where there are proposed alteration(s) of watercourses, accomplish the following:
1. Notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration;
2. Require that maintenance be provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.

E. Make interpretations, where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). A person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in CMC Title 14 for administrative appeals. In passing upon such applications, the hearing officer shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:
1. The danger that materials may be swept onto other lands to the injury of others;
2. The danger to life and property due to flooding or erosion damage;
3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
4. The importance of the services provided by the proposed facility to the community;
5 . The necessity to the facility of a waterfront location, where applicable;
6. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
7. The compatibility of the proposed use with existing and anticipated development;
8. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
9. The safety of access to the property in times of flood for ordinary and emergency

vehicles;

10. The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
11. 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, and water systems, and streets and bridges.

F. The planning director shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

5.120 Variances.

Variances of the requirements of Chapter 5 of Appendix B may be granted as outlined below and as outlined in Chapter 7.8 of this Master Program.

A. Variances, as interpreted in the National Flood Insurance Program, 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, or economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare.
B. Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in this section.
C. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
D. Generally, the only condition under which a variance from the elevation standard may be issued is 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 base flood level, providing Section 5.120(E)(1) through (11) have been fully considered. As the lot size increases, the technical justification required for issuing the variance increases.
E. Variances shall only be issued upon a determination that the variance is the mini- mum necessary, considering the flood hazard, to afford relief.
F. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except subsection A of this section, and otherwise complies with Section 5.140(A) and (B) and Chapter 7.8 of this Master Program.
G. Variances shall only be issued upon:
    1. A showing of good and sufficient cause;
    2. A determination that failure to grant the variance would result in exceptional hardship to the applicant;
    3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisances, cause fraud on or victimization of the public as identified in Section 5.120, or conflict with existing local laws or ordinances.

H. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

5.130 General standards.

In all areas of special flood hazards, the following standards are required:

A. Anchoring.
   1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure;
   2. All manufactured homes must likewise 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 (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

B. Construction Materials and Methods.
   1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
   2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage;
   3. 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. Utilities.
   1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
   2. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters; and
   3. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

D. Subdivision Proposals.
   1. All subdivision proposals shall be consistent with the need to minimize flood damage;
   2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
   3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage;
   4. All subdivisions shall disclose the presence on each residential lot of one building site, including access, that is suitable for development and is not within the area of special flood hazard; and
   5. Where base flood elevation data has not been provided or is not available from

another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or five acres (whichever is less).

5.140 Specific standards.

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Sections 5.070 or 5.120(B), the following provisions are required:

A. Residential Construction.
   1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated one foot or more above base flood elevation;
   2. 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:
      a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;
      b. The bottom of all openings shall be no higher than one foot above grade;
      c. Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.

B. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot or more above the level of the base flood elevation or, together with attendant utility and sanitary facilities, shall:
   1. Be floodproofed so that below one foot above the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
   2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
   3. 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 5.120(C)(2);
   4. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (A)(2) of this section;
   5. Applicants 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 one foot above the base flood level will be rated as at the base flood level).

C. Manufactured Homes. Any manufactured home to be placed or substantially improved within Zones A1-A30, AH, and AE on the community's FIRM shall be elevated on a

permanent foundation such that the lowest floor of the manufactured home is one foot or more above the base flood elevation, and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 5.140(A)(2).

D. Recreational Vehicles. Recreational vehicles placed on sites are required to:
   1. Be on site not more than 14 consecutive days;
   2. Be fully licensed and ready for highway use, on their wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions.

5.150 Floodways.

Located within areas of special flood hazard established in Section 5.070 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

A. Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer or architect is provided demonstrating through hydrologic or hydraulic analyses performed in accordance with standard engineering practice that encroachments shall not result in any increase in flood levels during the occurrence of the base flood damage.
B. Construction or reconstruction of residential structures is prohibited within designated floodways, except for:
   1. Repairs, reconstruction, or improvements to a structure which do not increase the ground floor area; and
   2. 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, reconstruction, or improvement is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. Work done on structures to comply with existing health, sanitary, or safety codes or to structures identified as historic places shall not be included in the 50 percent.
C. If subsection A of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this chapter.

5.160 Encroachments.

The cumulative effect of any proposed development, where combined with all other existing and anticipated development, shall not increase the water surface elevation of the base flood more than one foot at any point.

5.170 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 one to three 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 these areas, the following provisions apply:

A. New construction and substantial improvements of residential structures within AO Zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the building one foot or more above the depth number specified on the FIRM (at least two feet if no depth number is specified).
B. New construction and substantial improvements of nonresidential structures within AO Zones shall either:
    1. 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
    2. Together with attendant utility and sanitary facilities, be completely floodproofed 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 5.150(B)(3).
C. Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

CHAPTER 6 - GEOLOGICALLY HAZARDOUS AREAS

Sections:

6.010 Permitted uses and activities.

Uses and activities allowed within designated geologically hazardous areas within shoreline jurisdiction are those uses permitted by this Shoreline Master Program, subject to the provisions of this chapter.

6.020 Classification.

A. Geologically hazardous areas include areas susceptible to erosion, sliding, earthquake, or other geological events that may pose a threat to the health and safety of citizens when incompatible commercial, residential, or industrial development is sited in areas of significant hazard. Classification and rating of geologically hazardous areas will be based upon the risk to development. The following categories shall be used:

1. Known or Suspected Risk. Areas that are susceptible to one or more of the following types of hazards shall be classified as a geologically hazardous area with a known or suspected risk and shall require a geologic site assessment as described in Section 5.090.

    a. Erosion hazard areas identified by the U.S. Department of Agriculture Natural Resources Conservation Service and Chelan County Soil Survey Manual which may experience significant erosion. Erosion hazard areas also include channel migration zones. These include areas likely to become unstable, such as bluffs, steep slopes, and areas with unconsolidated soils. Consult with the United States Department of Agriculture Natural Resources Conservation Service for data to help identify erosion hazard areas;

    b. Landslide hazard areas shall include areas potentially subject to landslides based on a combination of geologic, topographic and hydrologic factors. They include any areas susceptible to mass movement because of any combination of bedrock soil, slope (gradient), slope aspect, structure, hydrology, damage or removal of vegetative cover, or other factors. Examples of these may include, but are not limited to, the following:

        i. Sites that are located on or within two hundred fifty feet of areas of documented or historic failures, such as:

            (a) Those areas delineated by the United States Department of Natural

Resource Conservation Service as having a "severe" limitation for building site development.

(b) Areas designated as quaternary slumps, earthflows, mudflows, or landslides on maps published by the United States Geological Survey or the Department of Natural Resources Division of Geology and Earth Resources.

(c) Areas located on a landslide feature which has shown movement during the past ten thousand years or which is underlain or covered by mass wastage debris of that period.

(d) Slopes that are adjacent to existing fault planes or similar geologic formations.

ii. Sites that are located on or within two hundred fifty feet from areas with all three of the following characteristics:

(a) Slopes steeper than fifteen percent; and

(b) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and

(c) Springs or groundwater seepage.

iii. Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action, including stream channel migration zones.

iv. Areas located on or within two hundred fifty feet from an alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding.

v. Steep Slopes. Any slope of forty percent or steeper with ten feet of relief or areas adjacent to these slopes, of which shall cover a distance equal to the vertical height of the slope or two hundred fifty feet, whichever is less.

vi. Areas that show evidence of, or are at risk from, sliding that may pose a threat to the public health and safety.

c. Sites that are located on or within five hundred feet from snow avalanche areas. Snow avalanche areas include areas that show evidence of, or are at risk from, snow avalanches.

d. Sites that are located on or within seismic hazard areas. Seismic hazard areas include areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement or subsidence, soil liquefaction, surface faulting, or tsunamis. Settlement and soil liquefaction conditions occur in areas underlain by cohesionless soils of low density, typically in association with a shallow groundwater 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, and ground settlement may occur with shaking. The strength of ground shaking is primarily affected by:

i. The magnitude of an earthquake;

ii. The distance from the source of an earthquake;

iii. The type or thickness of geologic materials at the surface; and

iv. The type of subsurface geologic structure.

e. Other geological hazard areas:

i. Volcanic hazard areas must include areas subject to pyroclastic flows, lava flows, debris avalanche, or inundation by debris flows, lahars, mudflows, or related flooding resulting from volcanic activity.

ii. Mine hazard areas are those areas underlain by, adjacent to, or affected by mine workings such as adits, gangways, tunnels, drifts, or air shafts. Factors which should be considered include: Proximity to development, depth from ground surface to the mine working, and geologic material.

f. Upon examination of the subject property by a qualified professional pursuant to Section 5.080, if a determination is made that none of the foregoing conditions are present on or adjacent to the property, the qualified professional may state in letter form the circumstances under which the site assessment or report may be waived.

2. No Risk. Areas classified initially as geologically hazardous areas with a known or suspected risk or unknown risk may, upon further study, actually pose no risk to development or to the public health and safety. Where the administrator can determine that no risk from the geologically hazardous area is present, based upon geotechnical reports or the most current, accurate, and complete scientific and technical information available, these areas shall be classified as geologically hazardous areas determined to be of no risk.

3. Unknown Risk. Geologically hazardous areas may be present in the county that cannot readily be identified based upon the criteria of subsection (1) of this section. Geologically hazardous areas of unknown risk include areas where data is not available to determine the presence or absence of a geological hazard. The administrator may require a geologic site assessment and/or geotechnical report to determine the actual presence or absence of a geologically hazardous area.

6.030 Designation.

All existing areas of the City in shoreline jurisdiction classified according to the provisions contained above in this chapter, as determined by the City, are designated as geologically hazardous areas.

6.040 Application requirements.

Development permit applications shall provide appropriate information on forms provided by the City, including without limitation the information described below. Additional reports or information to identify potential impacts and mitigation measures to geologically hazardous areas may be required if deemed necessary. Detailed studies and reports may be necessary to determine the existence of a geologically hazardous area, and if so, whether or not development will be allowed and what mitigation measures might be necessary where development may occur.

A. A site plan which discloses the following:

1. The location and boundaries of the geologically hazardous area;

2. The location and dimensions of all existing and proposed buildings, roads and other improvements, and their physical relationship to the geologically hazardous area;
3. The location and type of any proposed buffers, including the identification of any other protective measures; and
4. Locations and results of any test holes, excavations, etc., used in evaluating the existence and extent of the geologic hazard;

B. A geotechnical report prepared as described within this title; and

C. A certification from the geotechnical engineer and/or geologist preparing the study and report stating all of the following:
1. The risk of damage from the project, both on- and off-site, is minimal;
2. The project will not materially increase the risk of occurrence of the hazard; and
3. The specific measures incorporated into the design and operational plan of the project to eliminate or reduce the risk of damage due to the hazard.

6.050 Geotechnical report.

A. All geotechnical reports shall be prepared by a consultant team including a geologist and/or a geotechnical engineer, or an engineer or an engineering geologist who is knowledgeable of regional geologic conditions and who derives his/her livelihood from employment in one of these specialized fields.

B. A geotechnical report shall include a description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations on the suitability of the site to be developed. More specifically, the report shall evaluate the actual presence of geologic conditions giving rise to the geologic hazard, including without limitation the following:
1. Documentation of site history, evidence of past geologically hazardous activities in the vicinity, quantitative analysis of slope stability and available geologic information;
2. Surface reconnaissance of the site and adjacent areas;
3. Subsurface exploration of the site to assess potential geologic impacts of the proposal;
4. Hydrologic analysis of slope and/or soil stability;
5. Approximate depth to groundwater;
6. Evaluation of the safety of the proposed project, and identification of construction practices, monitoring programs and other mitigation measures necessary; and
7. Demonstration of the following:
   a. There will be no increase in surface water discharge or sedimentation to adjacent properties;
   b. There will be no decrease in slope stability on the site nor on adjacent properties;
   c. There is no hazard as proven by evidence of no past geologically hazardous activity in the vicinity of the proposed development and a quantitative analysis of slope stability indicates no significant risk to the development proposal and adjacent properties; and
   d. The geologically hazardous area can be modified or the development proposal

can be designed such that the hazard is eliminated or mitigated, making the site as safe as one without a hazard.

C. The recommendations from a soils engineering report and the engineering geology report shall be incorporated in a geotechnical report and in the grading plan specifications.
   1. The soils engineering report, prepared according to Appendix, Chapter and Section 3309.5 of the Uniform Building Code (U.B.C.), shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures if necessary.
   2. The engineering geology report, prepared according to Appendix, Chapter and Section 3309.6 of the U.B.C., shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinion on the adequacy for the intended use of sites to be developed by the proposed grading.

6.060 General standards.

The following minimum standards shall apply to all development activities, including creation of new lots, occurring within designated geologically hazardous areas and their buffers.

A. All projects shall be evaluated to determine whether the project is proposed to be located in a geologically hazardous area, the project's potential impact on the geologically hazardous area, and the potential impact of the geologic hazard on the proposed project.
B. Appropriate buffer areas shall be maintained between all permitted uses and activities and designated geologically hazardous areas.
   1. A minimum buffer of 50 feet shall be established from the top, toe and all edges of geologically hazardous areas.
   2. Existing native vegetation within the buffer area shall be maintained.
   3. The buffer may be reduced to a minimum of 30 feet when an applicant demonstrates, to the satisfaction of the City, that the reduction will adequately protect the proposed development and the designated geologically hazardous area.
   4. Normal nondestructive pruning and trimming of vegetation for maintenance purposes, or thinning of limbs of individual trees to provide for a view corridor, is allowed within the buffer area.
C. Appropriate drainage and erosion control measures, as determined by the City, shall be implemented in designated geologically hazardous areas.
   1. All development shall submit for review and approval a drainage and erosion control plan pursuant to the provisions of this title, unless waived by the City.
   2. All disturbed areas shall be revegetated in accordance with an approved plan, and completed within six months.
   3. Surface drainage shall not be directed across the face of a bluff or into a ravine. If drainage must be discharged from the bluff into adjacent waters, it shall be collected above the face of the bluff and directed to the water by a sealed drain line, and provided with an energy dissipating device.
D. Appropriate grading and excavation measures, as determined by the City, shall be

implemented in designated geologically hazardous areas.

1. All development shall submit for review and approval a grading and excavation plan as specified in Chapter 1, unless waived by the City. There shall be minimum disturbance of trees and vegetation on steep slopes and in ravines to minimize erosion and instability.
2. Excavation, grading and earthwork construction in designated geologically hazardous areas shall only be allowed from April 1st to October 15th, except for the following circumstances:
   a. Up to 5,000 square feet may be cleared on any lot outside required critical area buffers, subject to approval of a drainage and erosion control and grading plan as required above; and
   b. Timber harvest pursuant to DNR-approved forest practices or a clearing and grading permit may be allowed.
3. All disturbed areas shall be revegetated in accordance with an approved plan, and completed within six months.
4. All clearing shall be marked in the field for inspection and approval prior to alteration of the site.
5. The face of any cuts and/or fills on slopes will be prepared, maintained and revegetated to control against erosion.

E. Construction methods should be utilized which minimize risks to structures and which do not increase the risk to the site, or to adjacent properties and their structures, from the geologic hazard.

F. Site planning shall minimize disruption of existing topography and natural vegetation, and shall incorporate opportunities for phased clearing.

G. Impervious surface coverage shall be minimized.

H. Any limitations to site disturbance, such as clearing restrictions, imposed as a condition of development approval shall be marked in the field and approved by the City prior to undertaking the project.

I. A monitoring program shall be prepared for construction activities occurring in critical geologic hazard areas.

J. Development shall not increase instability or create a hazard to the site or adjacent properties, or result in a significant increase in sedimentation or erosion.

6.070 Specific standards.

The following standards shall apply to the activity identified below, in addition to the general standards outlined in Section 6.050.

A. Road Repair and Construction. Construction of any new public or private road is prohibited in a designated geologically hazardous area. Any existing private or public road repair or maintenance may be authorized, subject to the following minimum standards:
   1. The repair and maintenance shall not create additional significant adverse impacts to the geologically hazardous area; and
   2. Road repair and maintenance is the minimum necessary to provide safe traveling

surfaces.

B. Major Developments. All major developments processed by the City according to the provisions governing full administrative review or quasi-judicial review authorized within a designated geologically hazardous area shall comply with the following minimum standards:
   1. All plats shall disclose the presence on each residential lot of one building site, including sufficient building area, sewage system, setbacks, and access, that is suitable for development and which is not within the designated geologically hazardous area or its associated buffer;
   2. All geologically hazardous areas and their buffers shall be clearly identified on all plats, maps, documents, etc.;
   3. Designated geologically hazardous areas and their associated buffers shall be designated and disclosed on the final plats, maps, documents, etc., as open space tracts, nonbuildable lot and buffer areas, or as common areas, with ownership and control transferred to a homeowner's association. Associated geologically hazardous area buffers may alternatively be designated and disclosed on the final plats, maps, documents, etc., as an easement or covenant encumbering the property; and
   4. Areas which pose an immediate, significant threat to public safety shall be appropriately fenced and identified, as determined by the City.

C. Surface Water Management. Stormwater retention and detention systems, including percolation systems utilizing buried pipe or french drain, are prohibited within designated geologically hazardous areas and their buffers, unless a geotechnical report indicates such a system shall not affect slope stability and the systems are designed by an engineer. The engineer shall also certify that the systems were installed as designed.

D. Trails and Trail-Related Facilities. Construction of public and private trails and trail-related facilities, such as picnic tables, benches, interpretive centers and signs, viewing platforms and campsites may be authorized within a designated geologically hazardous area, subject to the following minimum standards:
   1. Trail facilities shall, to the extent feasible, be placed on existing road grades, utility corridors, or any other previously disturbed areas;
   2. Trail facilities shall minimize the removal of trees, shrubs, snags and other important features;
   3. Viewing platforms, interpretive centers, campsites, picnic areas, benches and their associated access shall be designed and located to minimize disturbance of the geologically hazardous area; and
   4. All structures shall be constructed with materials complementary to the surrounding environment.

E. Utilities. When no other practical alternative exists, construction of utilities within a designated geologically hazardous area may be authorized, subject to the following minimum standards:
   1. Utility corridor shall be jointly used;
   2. Corridors shall be revegetated to pre-construction densities with appropriate native vegetation immediately upon completion of construction, or as soon thereafter as

possible given seasonal growing constraints. The utility purveyor shall provide an assurance device or surety in accordance with CMC which ensures that such vegetation survives;

3. Any additional corridor access for maintenance shall be provided as much as possible at specific points rather than by parallel roads. If parallel roads are necessary they shall be no greater than 15 feet in width, and shall be contiguous to the location of the utility corridor on the side opposite the designated geologically hazardous area;
4. Construction of sewer lines within a designated geologically hazardous area which are necessary to meet state and/or local health code requirements may be authorized, provided the severity of the designated geologically hazardous area is not increased;
5. Septic system drain fields shall be located outside of the geologically hazardous area and the associated buffers, unless otherwise justified and certified by a qualified geotechnical engineer.