Chapter 20.240
SMP Critical Areas Regulations

Sections:

Subchapter 1. Critical Areas – General Provisions

Subchapter 1.

Critical Areas – General Provisions

20.240.010 Purpose.

A. The purpose of this chapter is to establish supplemental standards for the protection of critical areas and their associated buffers within the shoreline jurisdiction consistent with the goals and policies of the SMA.

B. The provisions of this chapter do not extend beyond the shoreline jurisdiction limits specified in the City's Master Program and the SMA.

C. By identifying and regulating development and alterations to critical areas and buffers within the shoreline jurisdiction it is the intent of this chapter to:

1. Protect the public from injury, loss of life, property damage or financial losses due to flooding, erosion, landslide, seismic events, or soils subsidence;

2. Protect unique, fragile and valuable elements of the environment;

3. Reduce cumulative adverse environmental impacts to water quality, wetlands, streams, and other aquatic resources, fish and wildlife habitat, landslide hazards, and other geologically unstable features and protect the functions and values of critical areas from overall net loss;

4. Ensure the long-term protection of ground and surface water quality;

5. Alert members of the public, including appraisers, assessors, owners, potential buyers, or lessees, to the development limitations of critical areas and their required buffers;

6. Serve as a basis for exercise of the City's substantive authority under the State Environmental Policy Act (SEPA), chapter 43.31C RCW, and the City's Environmental Procedures (chapter 20.30 SMC, Subchapter 8);

7. To comply with the requirements of the Shoreline Management Act, chapter 90.58 RCW, and its implementing regulations;

8. Establish standards and procedures that are intended to protect critical areas and their associated buffers within the shoreline jurisdiction while accommodating the rights of property owners to use their property in a reasonable manner; and

9. Provide for the management of critical areas and buffers within the shoreline jurisdiction so as not to result in a net loss of ecological functions and to restore degraded ecosystems.

D. This chapter is to be administered with flexibility and attention to site-specific characteristics.

E. For the purpose of this chapter, critical areas and buffers shall have the same meanings as set forth in SMC 20.20 and RCW 36.70A.030(5).

F. For the purpose of this chapter, when referring to "functions and values" or "functions," it is the critical area's functions and values in relationship to the shoreline ecological functions.

20.240.015 Applicability.

A. Unless explicitly exempted, the provisions of this chapter shall apply to all land uses, development activity, and all structures and facilities within critical areas and buffers located within the City's shoreline jurisdiction, whether or not a permit or authorization is required, and shall apply to every person or entity that owns, lease, or administers land within the City's shoreline jurisdiction.

B. No person or entity shall alter a critical area of buffer in the shoreline jurisdiction except in compliance with the requirements of this chapter.

B. The City shall not approve any permit or otherwise issue any authorization to alter the condition of any land, water, or vegetation or to construct or alter any structure or improvement in the shoreline jurisdiction without first assuring compliance with the requirements of this chapter.

C. Approval of a permit or development proposal pursuant to the provisions of this chapter does not discharge the obligation of the applicant to comply with the provisions of this chapter.

D. The provisions of this chapter shall apply to any forest practices over which the City has jurisdiction pursuant to Chapter 76.09 RCW and WAC Title 222.

20.240.020 Relationship to other regulations.

A. These critical area regulations shall apply as an overlay in addition to use and development regulations established by the City of Shoreline consistent with the SMA and this Master Program. In the event of any conflict between these regulations and any other regulations of the City, the regulations which provide greater protection to the critical areas shall apply.

B. Areas characterized by particular critical areas may also be subject to other regulations established by this chapter due to the overlap or multiple functions of some critical areas. In the event of any conflict between regulations for particular critical areas in this chapter, the regulations which provide greater protection to critical areas shall apply.

C. These critical areas regulations shall apply concurrently with review conducted under the State Environmental Policy Act (SEPA), as necessary and locally adopted. Any conditions required pursuant to this chapter shall be included in the SEPA review and threshold determination.

D. Compliance with the provisions of this chapter does not constitute compliance with other Federal, State, and local regulations and permit requirements that may be required (for example, shoreline substantial development permits, Hydraulic Permit Act (HPA) permits, Section 106 of the National Historic Preservation Act, U.S. Army Corps of Engineers Section 404 permits, National Pollution Discharge Elimination System permits). The applicant is responsible for complying with these requirements, apart from the process established in this chapter.

20.240.025 Critical areas maps.

A. The approximate location and extent of identified critical areas within the City's planning area are shown on the critical areas maps adopted as part of this chapter, including but not limited to the maps identified in SMC 20.240.222, 20.240.272 and 20.240.322. These maps shall be used for informational purposes as a general guide only for the assistance of property owners and other interested parties. Boundaries and locations indicated on the maps are generalized. Critical areas and their buffers may occur within the shoreline jurisdiction which have not previously been mapped. A site inspection by staff or an applicant's critical area worksheet may also indicate the presence of a critical area.

B. Based on an indicated critical area in subsection A of this section, the actual presence or absence, delineation and classification of critical areas shall be identified in the field by a qualified professional, and confirmed by the City, according to the procedures, definitions and criteria established by SMC 20.240.080(D)(1) and (2). In the event of any conflict between the critical area location or designation shown on the City's maps and the criteria or standards of this chapter, the criteria and standards of this chapter shall prevail.

C. The critical areas maps shall be periodically updated by the City and shall reflect any permit activity, results of special studies and reports reviewed and approved by the City, amendments to the Comprehensive Plan Natural Environment Element, and Department-identified errors and corrections.

20.240.040 Allowed activities.

A. **Critical Area Report.** Activities allowed under this section shall have been reviewed and permitted or approved by the City and any other agency with jurisdiction, but do not require submittal of a separate critical area report, unless such submittal was required previously for the underlying permit. The Director may apply conditions to the underlying permit or approval to ensure that the allowed activity is consistent with the provisions of this chapter to protect critical areas.

B. **Best Management Practices.** All allowed activities shall be conducted using the best management practices that result in the least amount of impact to the critical areas. Best management practices shall be used for tree and vegetation protection, construction management, erosion and sedimentation control, water quality protection, and regulation of chemical applications. The City shall require the use of best management practices to ensure that the activity does not result in degradation to the critical area. Any incidental damage to, or alteration of, a critical area shall be restored, rehabilitated, or replaced at the responsible party's expense.

C. **Allowed Activities.** The following activities are allowed:

1. **Modifications to Existing Structures within Critical Areas.** Structural modification of, addition to, maintenance, repair, or replacement of legally nonconforming structures consistent with SMC 20.220.150, which do not meet the building setback or buffer requirements for wetlands, fish and wildlife habitat conservation areas, or geologic hazard areas if the modification, addition, replacement or related activity does not increase the existing building footprint of the structure or area of hardscape lying within the critical area or buffer. Within landslide hazard areas, additions that add height to a nonconforming structure may only be allowed with review of a critical area report demonstrating that no increased risk of the hazard will occur. If such modification, alteration, repair, or replacement requires encroachment into a critical area or a critical area buffer to perform the work, then encroachment may be allowed subject to restoration of the area of encroachment to a same or better condition.

2. **Demolition.** Demolition of structures located within critical areas or their buffers, excluding demolition of structures necessary to support or stabilize landslide hazard areas, and subject to approval of a stormwater pollution prevention plan consistent with the adopted stormwater manual and clearing limits that will adequately protect the critical area.

3. **Permit Requests Subsequent to Previous Critical Area Review.** A permit or approval sought as part of a development proposal for which multiple permits are required is exempt from the provisions of this chapter, except for the notice to title provisions, as applicable if:

a. The City of Shoreline has previously reviewed all critical areas on the site; and

b. There is no material change in the development proposal since the prior review; and

c. There is no new information available which may alter previous critical area review of the site or a particular critical area; and

d. The permit or approval under which the prior review was conducted has not expired or, if no expiration date, no more than five years have lapsed since the issuance of that permit or approval; and

e. The prior permit or approval, including any conditions, has been complied with.

20.240.045 Critical areas preapplication meeting.

A. A preapplication meeting, pursuant to SMC 20.30.080, is required prior to submitting an application for development or use of land that may impact critical areas or buffers within the shoreline jurisdiction.

B. A determination may be provided through the preapplication meeting regarding whether critical area reports are required, and if so what level of detail and what elements may be necessary for the proposed project. An applicant may submit a critical area delineation and classification study prior to the City determining that a full critical area report is required.

This determination does not preclude the Director from requiring additional critical area report information during the review of the project. After a site visit and review of available information for the preapplication meeting, the Director may determine:

1. **No Critical Areas Present.** If the Director's analysis indicates that the project area is not within or adjacent to a critical area or buffer and that the proposed activity is unlikely to result in a net loss of shoreline ecological functions provided by the critical area or buffer, then the Director shall determine that the critical area review is complete and note in the preapplication meeting summary letter the reasons that no further review is required.

2. **Critical Areas Present, But No Impact.** If the Director determines that there are critical areas within or adjacent to the project area, but that the best available science shows that the proposed activity is unlikely to result in a net loss of shoreline ecological functions provided by the critical area or buffer, the Director may waive the requirement for a critical area report. A waiver may be granted if there is substantial evidence that all of the following requirements will be met:

a. There will be no alteration of the critical area or buffer;

b. The development proposal will not impact the critical area in a manner contrary to the purpose, intent, and requirements of this chapter, the City's Master Program, and the SMA; and

c. The proposal is consistent with other applicable regulations and standards.

A summary of this analysis and the findings shall be included in the preapplication meeting summary letter and any staff report or decision on the underlying permit.

3. **Critical Areas May Be Affected by Proposal.** If the Director determines that a critical area(s) or buffer(s) may be affected by the proposal, then the Director shall notify the applicant that a critical area report(s) shall be submitted prior to further review of the project, and indicate each of the critical area types that should be addressed in the report. Additionally, the Director may indicate the sections or report types that shall be included in the critical report(s) consistent with SMC 20.240.080.

20.240.050 Alteration of critical areas.

In general, critical areas and buffers shall be maintained in their existing state including undisturbed, native vegetation to maintain the functions, values, resources, and public health and safety for which the critical areas and buffers are protected or allowed as the current, developed legally established condition such as graded areas, structures, pavement, gardens and lawns. Alteration of critical areas, including their established buffers, may only be permitted subject to the criteria and standards in this chapter, and compliance with any Federal and/or State permits required. Unless otherwise provided in this chapter, if alteration of the critical area is unavoidable, all adverse impacts to or from critical areas and buffers resulting from a development proposal or alteration shall be mitigated using the best available science in

accordance with an approved critical areas report, so as to result in no overall net loss of shoreline ecological function provided by the critical area and no increased risk of hazards.

20.240.053 Mitigation requirements.

Mitigation shall ensure that each permitted development or use will not cause a net loss of ecological functions of the shoreline as provided by the critical area or buffer and to prevent risk from a hazard posed by a critical area. Mitigation shall not be implemented until after the Director has provided approval of a critical areas report that includes a mitigation plan.

A. **Mitigation Sequencing.** This section applies to mitigation required with all critical areas reviews, approvals, and enforcement pursuant to this chapter. This section is supplemented with specific measures under subchapters for particular critical areas. Mitigation for specific development proposals may include a combination of the measures below and shall be designed and constructed in accordance with the provisions of this section. Before impacting any critical areas or buffers, an applicant shall demonstrate that the following actions have been taken in the following sequential order of preference:

1. Avoiding the impact altogether by not taking a certain action or parts of actions;

2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;

3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment or by restoring or stabilizing the hazard area through natural, engineering, or other methods;

4. Reducing or eliminating the impact over time through preservation and maintenance operations during the life of the action;

5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

6. Monitoring, measuring and reporting the impact to the Director and taking appropriate corrective measures.

B. Applicants shall first demonstrate an inability to avoid or reduce impacts before the use of actions to mitigate potential impacts will be allowed. No activity or use shall be allowed that

results in a net loss of the shoreline ecological functions provided by the critical areas or buffers or has a significant adverse impact on other shoreline functions fostered by the policies of this Master Program and the SMA.

C. **Type, Location, and Timing of Mitigation.** Unless it is demonstrated that a higher level of ecological functioning or greater reduction of hazard risk would result from an alternative approach or as otherwise allowed in this chapter, mitigation for adverse impacts shall be based on best available science, with preferential consideration given to measures that replace the impacted functions directly and in immediate vicinity of the impact and prior to the activities that will disturb the critical area. Mitigation measures that cannot be implemented prior to the critical area impacts shall be completed immediately following disturbance and prior to use or occupancy of the action or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife, and flora.

1. The Director may authorize a one-time temporary delay in completing construction or installation of the mitigation when the applicant provides a written explanation from a qualified professional as to the rationale for the delay. An appropriate rationale would include identification of the environmental conditions that could produce a high probability of failure or significant construction difficulties (e.g., project delay lapses past a fisheries window, or installing plants should be delayed until the dormant season to ensure greater survival of installed materials). The delay shall not create or perpetuate hazardous conditions or environmental damage or degradation, and the delay shall not be injurious to the health, safety, or general welfare of the public. The request for the temporary delay shall include a written justification that documents the environmental constraints that preclude implementation of the compensatory mitigation plan. The justification shall be verified and approved by the City.

20.240.056 Shoreline restoration projects.

Shoreline restoration projects, defined as projects designed to restore impaired ecological functions of a shoreline, shall be reviewed and permitted or approved by the City and any other agency with jurisdiction consistent with criteria established in WAC 173-27-215 and RCW 90.58.580.

20.240.060 Best available science.

A. **Protect Shoreline Ecological Functions provided by Critical Areas with Special Consideration to Anadromous Fish.** Critical area reports and decisions to alter critical areas or buffers shall rely on the best available science to protect the shoreline ecological functions provided by the critical areas and shall give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish, such as salmon and bull trout, and their habitat, where applicable.

B. **Best Available Science to Be Consistent with Criteria.** The best available science is that scientific information, obtained through a valid scientific process, that is applicable to the critical area prepared by local, State, or Federal natural resource agencies, a qualified scientific professional, or team of qualified scientific professionals that is consistent with criteria established in WAC 365-195 and RCW 36.70A.172.

C. **Characteristics of a Valid Scientific Process.** In the context of critical areas protection, a valid scientific process is one that produces reliable information useful in understanding the consequences of a local government's regulatory decisions, and in developing critical areas policies and development regulations that will be effective in protecting the shoreline ecological functions provided by the critical areas. To determine whether information received during the permit review process is reliable scientific information, the Director shall determine whether the source of the information displays the characteristics of a valid scientific process. Such characteristics are as follows:

1. **Peer Review.** The information has been critically reviewed by other persons who are qualified scientific experts in that scientific discipline. The proponents of the information have addressed the criticism of the peer reviewers. Publication in a referenced scientific journal usually indicates that the information has been appropriately peer-reviewed;

2. **Methods.** The methods used to obtain the information are clearly stated and reproducible. The methods are standardized in the pertinent scientific discipline or, if not, the methods have been appropriately peer-reviewed to ensure their reliability and validity;

3. **Logical Conclusions and Reasonable Inferences.** The conclusions presented are based on reasonable assumptions supported by other studies and consistent with the general theory underlying the assumptions. The conclusions are logically and reasonably derived from the assumptions and supported by the data presented. Any gaps in information and inconsistencies with other pertinent scientific information are adequately explained;

4. **Quantitative Analysis.** The data have been analyzed using appropriate statistical or quantitative methods;

5. **Context.** The information is placed in proper context. The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge; and

6. **References.** The assumptions, analytical techniques, and conclusions are well-referenced with citations to relevant, credible literature, and other pertinent existing information.

D. **Nonscientific Information.** Nonscientific information, such as anecdotal observations, nonexpert opinion, and hearsay, may supplement scientific information, but it is not an adequate substitute for valid and available scientific information.

E. **Absence of Valid Scientific Information.** Where there is an absence of valid scientific information or incomplete scientific information relating to a critical area, leading to uncertainty about the risk to shoreline ecological function provided by the critical area, for permitting an alteration of or impact to the critical area, the Director shall:

1. Take a "precautionary or a no-risk approach," that strictly limits development and land use activities until the uncertainty is sufficiently resolved; and

2. Require application of an effective adaptive management program that relies on scientific methods to evaluate how well regulatory and nonregulatory actions protect the critical area. An adaptive management program is a formal and deliberate scientific approach to taking action and obtaining information in the face of uncertainty. An adaptive management program shall:

a. Address funding for the research component of the adaptive management program;

b. Change course based on the results and interpretation of new information that resolves uncertainties; and

c. Commit to the appropriate time frame and scale necessary to reliably evaluate regulatory and nonregulatory actions affecting protection of critical areas and anadromous fisheries.

20.240.070 Classification and rating of critical areas.

To promote consistent application of the standards and requirements of this chapter, critical areas within the City's shoreline jurisdiction shall be rated or classified according to their characteristics, function and value, and/or their sensitivity to disturbance. Classification of critical areas shall be determined by the City using the following tools:

A. Application of the criteria contained in these regulations;

B. Consideration of the critical area reports submitted by qualified professionals in connection with applications subject to these regulations; and

C. Review of maps adopted pursuant to this chapter.

20.240.080 Critical area report – Requirements.

A. **Report Required.** If uses, activities, or developments are proposed within, adjacent to, or are likely to impact critical areas or their buffers, an applicant shall provide site-specific information and analysis in the form of critical area report(s) as required in this chapter. Critical area reports are required in order to identify the presence, extent, and classification/rating of potential critical areas, as well as to analyze, assess, and mitigate the potential adverse impact to or risk from critical areas for a development project. Critical area reports shall use standards for best available science in SMC 20.240.060. Critical area reports for two or more types of critical areas shall meet the report requirements for each type of critical area. The expense of preparing the critical area report(s) shall be borne by the applicant. This provision is not intended to expand or limit an applicant's other obligations under WAC 197-11-100.

B. **Preparation by Qualified Professional.** Critical area report(s) shall be prepared by qualified professional(s) as defined in SMC 20.20.042, with the required training and experience specific to the type(s) of critical area(s) present consistent with the requirements of SMC 20.240.240, 20.240.290, and 20.240.340. Proof of licensing, credentials, and resume of the qualified professional(s) preparing the report shall be submitted for review by the City to determine if the minimum qualifications are met.

C. **Third Party Review of Critical Area Reports.** Review of required critical area reports by a qualified professional under contract with or employed by the City will be required by the Director at the applicant's expense in any of the following circumstances:

1. The project requires a shoreline variance application or a shoreline conditional use permit; or

2. Third party review is specifically required by the provisions of this chapter for the critical area(s) or critical area buffer(s) potentially being impacted; or

3. When the Director determines such services are necessary to demonstrate compliance with the standards and guidelines of this chapter.

D. **Critical Area Report Types or Sections.** Critical area reports may be met in stages through multiple reports or combined in one report. A critical area report shall include one or more of the following sections or report types unless exempted by the Director based on the extent of the potential critical area impacts. The scope and location of the proposed project will determine which report(s) alone or combined are sufficient to meet the critical area report requirements for the impacted critical area type(s). The typical sequence of required sections or reports that will fulfill the requirements of this section include:

1. **Reconnaissance.** The existence, general location, and type of critical areas in the vicinity of a project site (off site within 300 feet for wetlands and fish and wildlife habitat conservation areas and off site within 200 feet for geologic hazards, shorelines, floodplains, and aquifer recharge areas) of a project site (if allowed by the adjoining property owners). Determination of whether the project will adversely impact or be at risk from the potential critical areas based on maximum potential buffers and possible application of SMC 20.240.220(A)(3), 20.240.280(D)(7) or 20.240.330(G)(10) should be addressed;

2. **Delineation.** The extent, boundaries, rating or classification, and applicable standard buffers of critical areas where the project area could potentially impact the critical area or its buffer including an assessment of the characteristics of or functions and values of the critical area and buffers identified;

3. **Analysis.** The proposal and impact assessment report documenting the potential project impacts to the critical area and buffers including a discussion of the efforts taken to avoid, minimize, and reduce potential impacts to those areas;

4. **Mitigation.** The measures that prevent or compensate for the potential impacts of the project designed to meet the requirements of this chapter, in SMC 20.240.082, Mitigation plan requirements, and the standards for the specific critical areas impacted. Mitigation

includes, but is not limited to, adjustments to required buffer sizes, best practices to minimize impacts, and critical area or buffer enhancement, restoration, or preservation plans. Mitigation plans include habitat management plans, revegetation, or replanting plans, and restoration plans;

5. **Maintenance and Monitoring.** The goals of the mitigation proposed, performance standards for success, monitoring methods and reporting schedule, maintenance methods and schedule, and contingency actions. Maintenance and monitoring plans shall be consistent with the mitigation performance standards and requirements of this chapter, including SMC 20.240.250, 20.240.300, and 20.240.350.

E. **Minimum Report Contents.** At a minimum, critical area reports shall contain the following:

1. The name and contact information of the applicant;

2. Adequate information to determine compliance with the requirements of the critical area regulations, this chapter, including critical area report, impact and hazard assessment, and mitigation requirements specific to each critical area type, as indicated in the corresponding sections of this chapter;

3. The dates, names, and qualifications of the qualified professional(s) preparing the report and documentation of any fieldwork performed on the site;

4. A description of the proposal, proposal location including address and parcel number(s), and a vicinity map for the project;

5. Identification of the development permit(s) requested and all other local, State, and/or Federal critical area-related permits required for the project;

6. A copy of the site plan for the development proposal including:

a. A map to standard engineering scale depicting critical areas, buffers, the development proposal, and any areas to be altered. In addition to plan size site plans, a legible, reduced (eight and one-half inches by 11 inches) copy will be required if noticing is required for the project; and

b. A scaled depiction and description of the proposed stormwater pollution prevention plan, consistent with the adopted stormwater manual, for the development and consideration of impacts to critical areas due to drainage alterations;

7. Identification and characterization of all critical areas, wetlands, water bodies, shorelines, and buffers within the vicinity of the proposed project area (off site within 300 feet for wetlands and fish and wildlife habitat conservation areas and off site within 200 feet for geologic hazards, shorelines, floodplains, and aquifer recharge areas);

8. A statement specifying the accuracy of the report and all assumptions made and relied upon;

9. A description of the methodologies used to conduct the critical areas investigation, including references;

10. An assessment of the probable impacts to the critical areas resulting from the proposed development of the site based upon identified findings;

11. A description of reasonable efforts made to apply mitigation sequencing pursuant to SMC 20.240.053, Mitigation requirements, to avoid, minimize, and mitigate impacts to critical areas; and

12. Plans for mitigation required to offset any critical areas impacts, in accordance with SMC 20.240.082, Mitigation plan requirements, and the corresponding mitigation performance standards sections of this chapter, including a discussion of the applicable development standards and cost estimates for determination of financial guarantee requirements.

F. **Existing Reports.** Unless otherwise provided, a critical areas report may incorporate, be supplemented by, or composed of any reports or studies required by other laws and regulations or previously prepared for and applicable to the development proposal site, as approved by the Director. At the discretion of the Director, reports previously compiled or submitted as part of a proposal for development may be used as a critical areas report to the extent that the requirements of this section and the report requirements for each specific critical area type are met. Critical areas reports shall be considered valid for five years; after such date the City shall determine whether a revision or additional assessment is necessary. Supplemental critical area report(s) may be required to provide information and analysis to address changes to the project

scope and potential impacts or to changes to applicable regulations that have been made subsequent to existing, valid critical area reports.

G. **Modifications to Report Requirements.**

1. **Limitations to Study Area.** The Director may limit the required geographic area of the critical areas report as appropriate if:

a. The applicant, with assistance from the City of Shoreline, cannot obtain permission to access properties adjacent to the project area; or

b. The proposed activity will affect only a limited part of the subject site.

2. **Modifications to Required Contents.** The applicant may consult with the Director prior to or during preparation of the critical areas report to obtain approval of modifications to the required contents of the report where, in the judgment of a qualified professional, more or less information is required to adequately address the potential critical area impacts and required mitigation. In some cases, such as when it is determined that no geologic hazard area is present, a full report may not be necessary to determine compliance with the critical area regulations, this chapter, and in those cases a letter or reconnaissance only report may be required.

3. **Additional Information Requirements.** The Director may require additional information to be included in the critical areas report when determined to be necessary to the review of the proposed activity in accordance with this chapter. Additional information that may be required includes, but is not limited to:

a. Historical data, including original and subsequent mapping, aerial photographs, data compilations and summaries, and available reports and records relating to the site or past operations at the site;

b. Grading and drainage plans; and

c. Information specific to the type, location, and nature of the critical area.

20.240.082 Mitigation plan requirements.

When mitigation is required, the applicant shall submit for approval by the City a mitigation plan as part of the critical area report. Mitigation plans shall meet the minimum requirements of SMC

20.240.080 and the applicable mitigation performance standards and requirements for the impacted type(s) of critical area(s) and buffer(s), including but not limited to SMC 20.240.250, 20.240.300, and 20.240.350. When the mitigation plan is submitted separately from other types or sections of the required critical area report(s), the mitigation plan shall meet the minimum content requirements of SMC 20.240.080(E) by inclusion or reference to other existing report(s). The mitigation plan shall include, at a minimum:

A. **Environmental Goals and Objectives.** The mitigation plan shall include a written report identifying environmental goals and objectives of the mitigation proposed and including:

1. A description of the anticipated impacts to the critical areas, the mitigating actions proposed, and the purposes of the compensation measures, including the site selection criteria; identification of compensation goals; identification of shoreline ecological functions; and dates for beginning and completion of site compensation construction activities. The goals and objectives shall be related to the shoreline ecological functions provided by the impacted critical area; and

2. A review of the best available science supporting the proposed mitigation and a description of the report author's experience to date in restoring or creating the type of critical area proposed.

B. **Performance Standards.** The mitigation plan shall include measurable specific criteria for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained at the end of the required monitoring period and whether or not the requirements of this chapter, this Master Program, and the SMA have been met.

C. **Detailed Construction Plans.** The mitigation plan shall include written specifications and descriptions of the mitigation proposed, such as:

1. The proposed construction sequence, timing, and duration;

2. Site plans showing grading and excavation details with minimum two-foot contour intervals;

3. Erosion and sediment control features;

4. A planting plan specifying plant species, quantities, locations, size, spacing, and density; and

5. Measures to protect and maintain plants until established.

These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome.

D. **Monitoring Program and Contingency Plan.**

1. A monitoring program shall be included in the mitigation plan and implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives of the mitigation plan are being met.

2. A contingency plan shall be established for indemnity in the event that the mitigation project is inadequate or fails. Contingency plans include identification of potential courses of action, and any corrective measures to be taken if monitoring or evaluation indicates project performance standards are not being met. Corrective measures will be required by the City when the qualified professional indicates, in a monitoring report, that the contingency actions are needed to ensure project success by the end of the monitoring period. A performance and maintenance bond, or other acceptable financial guarantee, is required to ensure the applicant's compliance with the terms of the mitigation agreement consistent with SMC 20.240.120, Financial guarantee requirements.

3. Monitoring programs prepared to comply with this section shall include, at a minimum, the following requirements:

a. Best available scientific procedures shall be used to establish the success or failure of the mitigation project. A protocol outlining the schedule for site monitoring (for example, monitoring shall occur in years zero (as-built), one, three, and five after site construction), and how the monitoring data will be evaluated to determine if the performance standards are being met.

b. For vegetation determinations, permanent sampling points shall be established.

c. Vegetative success shall, at a minimum, equal 80 percent survival of planted trees and shrubs and 80 percent cover of desirable understory or emergent plant species at the end of the required monitoring period. Alternative standards for vegetative success, including (but not limited to) minimum survival standards following the first growing season, may be required after consideration of recommendations provided in a critical area report or as otherwise required by the provisions of this chapter.

d. A monitoring report shall be submitted as needed to document milestones, successes, problems, and contingency actions of the mitigation project. Monitoring reports on the current status of the mitigation project shall be submitted, consistent with subsection E of this section, to the City on the schedule identified in the monitoring plan, but not less than every other year. The reports are to be prepared by a qualified professional and reviewed by the City, or a qualified professional retained by the City, and should include monitoring information on wildlife, vegetation, water quality, water flow, stormwater storage and conveyance, and existing or potential degradation, as applicable.

e. Monitoring programs shall be established for a period necessary to establish that performance standards have been met, but not for less than a minimum of five years without approval from the Director.

f. If necessary, failures in the mitigation project shall be corrected.

g. Dead or undesirable vegetation shall be replaced with appropriate plantings.

h. Damage caused by erosion, settling, or other geomorphological processes shall be repaired.

i. The mitigation project shall be redesigned (if necessary) and the new design shall be implemented and monitored, as in subsection (D)(3)(d) of this section.

j. Correction procedures shall be approved by a qualified professional and the City.

k. If the mitigation goals are not obtained within the initial monitoring period, the applicant remains responsible for restoration of the impacted shoreline ecological functions provided by the critical areas or hazard risk reduction until the mitigation goals agreed to in the mitigation plan are achieved.

E. **Monitoring Reports.** Monitoring reports shall be submitted to the City consistent with the approved monitoring plan.

1. The as-built report, required prior to final inspection, shall, at a minimum, include documentation of the following to establish the baseline for monitoring:

a. Departures from the original approved plans;

b. Construction supervision provided by the qualified professional;

c. Approved project goals and performance standards;

d. Baseline data for monitoring per the approved monitoring methods;

e. Photos from established photo points; and

f. A site plan showing final mitigation as constructed or installed, monitoring points, and photo points.

2. Subsequent monitoring reports shall, at a minimum, include:

a. Monitoring visit observations, documentation, and analysis of monitoring data collected;

b. Photos from photo points;

c. Determination whether performance standards are being met; and

d. Maintenance and/or contingency action recommendations to ensure success of the project at the end of the monitoring period.

3. The applicant shall be responsible for the cost (at the current hourly rate) of review of monitoring reports and site inspections during the monitoring period, which are completed by the City or a qualified professional under contract with or employed by the City.

F. **Cost Estimates.** The mitigation plan shall include cost estimates that will be used by the City to calculate the amounts of financial guarantees, if necessary, to ensure that the mitigation plan is fully implemented. Financial guarantees ensuring fulfillment of the mitigation project,

monitoring program, and any contingency measures shall be posted in accordance with SMC 20.240.120, Financial guarantee requirements.

G. **Approved Mitigation Projects – Signature.** On completion of construction, an as-built report for any approved mitigation project shall be prepared and signed off by the applicant's qualified professional and approved by the City. Signature of the qualified professional on the required as-built report and approval by the City will indicate that the construction has been completed as planned.

20.240.085 Pesticides, herbicides and fertilizers on City-owned property.

Pesticides, herbicides and fertilizers which have been identified by State or Federal agencies as harmful to humans, wildlife, or fish shall not be used in City-owned properties containing critical areas or their buffers within the shoreline jurisdiction except as allowed by the Director for the following circumstances:

A. When the Director determines that an emergency situation exists where there is a serious threat to public safety, health, or the environment, and that an otherwise prohibited application shall be used as a last resort.

B. Compost or fertilizer may be used for native plant revegetation projects in any location.

C. Limited pesticide and herbicide use may be applied pursuant to the King County Noxious Weed Control Board best management practices, specific to the species needing control, when that is determined to be the best method of control for the location. Federal, State, and local regulations of pesticides and water quality shall be followed, including requirements for pesticide applicator licensing from the Washington State Department of Agriculture.

20.240.090 Buffer areas.

The establishment of buffer areas shall be required for all development proposals and activities in or adjacent to critical areas within the shoreline jurisdiction. In all cases the standard buffer shall apply unless the Director determines that additional buffer width is necessary or reduced buffer is sufficient to protect the shoreline ecological functions consistent with the provisions of this chapter, this Master Program, the SMA, and the recommendations of a qualified professional. The purpose of the buffer shall be to protect the integrity, function, value and resource of the subject critical area for shoreline ecological function, and/or to protect life, property and resources from risks associated with development on unstable or critical lands.

The buffer shall consist of an undisturbed area of native vegetation. Buffers shall be protected during construction by placement of a temporary barricade if determined necessary by the City, on-site notice for construction crews of the presence of the critical area, and implementation of appropriate erosion and sedimentation controls. Restrictive covenants or conservation easements may be required to preserve and protect buffer areas.

20.240.100 Notice to title.

A critical area notice to title is required, as a condition of permit issuance or project approval, when a permit or development application is submitted for development on any property containing a critical area or buffer within the shoreline jurisdiction. The purpose is to inform subsequent purchasers of real property of the existence of critical areas. This requirement can be met through recording of a notice to title prepared by the City, establishment of a critical area tract, or recording of native growth protection area easement consistent with the following provisions:

A. **Notice to Title.** A notice to title is required when a permit is required for development on any property containing a critical area or buffer within the shoreline jurisdiction. The notice to title applicable to the property shall be approved by the Director and City Attorney for compliance with this provision and be filed by the property owner, at their expense, with the King County Recorder's Office. The title holder will have the right to challenge this notice and to have it extinguished if the critical area designation no longer applies. However, the titleholder shall be responsible for completing a critical area report, subject to approval by the Director, before the notice on title can be extinguished. The notice shall state that critical areas or buffers have been identified on the property within the shoreline jurisdiction and that limitations on actions in or affecting the critical area or buffer may exist. The notice shall run with the land. A critical area tract or native growth protection area easement shall be required to meet the notice to title requirement as follows:

1. **Critical Area Tract.** Subdivisions, short subdivisions, and binding site plans shall establish a separate critical areas tract as a permanent protective measure for wetlands, fish and wildlife habitat conservation areas, and landslide hazard areas and their buffers located within the shoreline jurisdiction. The plat or binding site plan for the project shall clearly depict the critical areas tract, and shall include all of the subject critical area, any required buffer, and any additional lands included voluntarily by the developer. Restrictions to development within the critical area tract shall be clearly noted on the plat or plan.

Restrictions shall be consistent with this chapter, this Master Program, and the SMA for the entire critical area tract. Should the critical area tract include several types of critical areas, the developer may establish separate critical areas tracts.

2. **Native Growth Protection Area.** NGPA easements shall be required on a property where no subdivision, short subdivision, or binding site plan is proposed or required. Unless otherwise required in this chapter, native growth protection area (NGPA) easements shall be recorded on title for all affected parcels prior to approval of a development agreement, issuance of a master development plan permit, or issuance of a site development or building permit, when two or more dwelling units and/or nonresidential development are proposed on one parcel, to delineate and protect those contiguous wetlands, fish and wildlife habitat conservation, and landslide hazard critical areas and their buffers located within the shoreline jurisdiction. The easement to be recorded shall clearly depict the critical area and the limits of the NGPA easement and shall include all of the subject critical area(s) and any required buffer(s). Restrictions to development within the NGPA easement shall be clearly noted in the easement and shall include the following:

a. That native vegetation will be preserved for the purpose of preventing harm to property and the environment, including, but not limited to, controlling surface water runoff and erosion, limiting chemical applications of hazardous substances (pesticides, herbicides, fertilizers), maintaining slope stability, buffering, and protecting plants, fish, and animal habitat; and

b. The right of the City to enforce the terms of the restriction.

B. **Proof of Notice.** The applicant shall submit proof that the notice has been recorded on title before the City approves any development permit, including master development plan permits, for the property or, in the case of subdivisions, short subdivisions, binding site plans, or development agreements, at or before recording.

20.240.110 Permanent field marking.

A. All critical areas tracts, easements, and dedications, or as recommended by a qualified professional, shall be clearly marked on the site using permanent markings, placed at least every 50 feet, which include the following text:

City of Shoreline Designated Critical Area. Activities, including clearing and grading, removal of vegetation, pruning, cutting of trees or shrubs, planting of nonnative species, and other alterations may be prohibited. Help protect and care for this area. Please contact the City of Shoreline with questions or concerns.

B. It is the responsibility of the landowner to maintain in perpetuity and replace if necessary all permanent field markings.

20.240.120 Financial guarantee requirements.

Bonds, and other financial guarantees, and associated performance agreements or maintenance/defect/monitoring agreements shall be required for projects with required mitigation or restoration of impacts to critical areas or critical area buffers consistent with the following:

A. A performance agreement and bond, or other acceptable financial guarantee, are required from the applicant when mitigation required pursuant to a development proposal is not completed prior to final permit approval, such as final plat approval or final building inspection. The amount of the performance bond(s) shall equal 125 percent of the cost of the mitigation project (after City mobilization is calculated).

B. A performance agreement and bond, or other acceptable financial guarantee, are required from the applicant when restoration is required for remediation of a critical area violation. The amount of the performance bond(s) shall equal 125 percent of the cost of the mitigation project (after City mobilization is calculated).

C. A maintenance/defect/monitoring agreement and bond, or other acceptable financial guarantee, are required to ensure the applicant's compliance with the conditions of the approved mitigation plan pursuant to a development proposal or restoration plan for remediation of a violation. The amount of the maintenance bond(s) shall equal 25 percent of the cost of the mitigation project (after City mobilization is calculated) in addition to the cost for monitoring for a minimum of five years. The monitoring portion of the financial guarantee may be reduced in proportion to work successfully completed over the period of the bond. The bonding period shall coincide with the monitoring period.

20.240.130 Unauthorized critical area alterations.

A. When a critical area or its buffer located within the shoreline jurisdiction 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 development, and order restoration measures at the owner's or other responsible party's expense to remediate the impacts of the violation of the provisions of this chapter.

B. **Requirement for Restoration Plan.** All development shall remain stopped until a restoration plan is prepared by the responsible party and an approved permit is issued by the City. Such a plan shall be prepared by a qualified professional using the best available science and shall describe how the actions proposed meet the minimum requirements described in subsection C of this section. The Director may, at the responsible party's expense, seek expert advice, including but not limited to third party review by a qualified professional under contract with or employed by the City, in determining if the plan meets the minimum performance standards for restoration. Submittal, review, and approval of required restoration plans for remediation of violations of this chapter, Critical Areas, shall be completed through a site development permit application process.

C. **Minimum Performance Standards for Restoration.**

1. For alterations to aquifer recharge areas, wetlands, and fish and wildlife habitat conservation areas, the following minimum performance standards shall be met for the restoration; provided, that if the violator can demonstrate that greater shoreline ecological functions provided through the functions and values provided by these critical areas can be obtained, these standards may be modified:

a. The pre-violation function and values of the affected critical areas and buffers shall be restored, including water quality and habitat functions;

b. The critical area and buffers shall be replanted with native vegetation that replicates the vegetation historically, or pre-violation, found on the site in species types, sizes, and densities. The pre-violation functions and values should be replicated at the location of the alteration; and

c. Information demonstrating compliance with the requirements in SMC 20.240.082, Mitigation plan requirements, and the applicable mitigation sections for the affected

type(s) of critical area(s) and their buffer(s) shall be submitted to the Director with a complete site development permit application.

2. For alterations to flood hazard and geologic hazard areas, the following minimum performance standards shall be met for the restoration of a critical area; provided, that if the violator can demonstrate that greater safety can be obtained, these standards may be modified:

a. The hazard shall be reduced to a level equal to, or less than, the pre-violation hazard;

b. Any risk of personal injury resulting from the alteration shall be eliminated or minimized; and

c. The hazard area and buffers shall be replanted with native vegetation sufficient to minimize the hazard.

D. **Site Investigation.** The Director is authorized to take such actions as are necessary to enforce this chapter. The Director shall present proper credentials and obtain permission before entering onto private property.

E. **Penalties.** Any responsible party violating of any of the provisions of this chapter may be subject to any applicable penalties per SMC 20.30.770, WAC 173-27-240, and RCW 90.58.200 and 90.58.210, plus the following:

1. A square footage cost of $3.00 per square foot of impacted critical area buffer within the shoreline jurisdiction; and/or a square footage cost of $15.00 per square foot of impacted critical area within the shoreline jurisdiction; and

2. A per tree penalty in the amount of $3,000 per nonsignificant tree and $9,000 per significant tree, for trees removed from a critical area or critical area buffer within the shoreline jurisdiction in violation of the provisions of this chapter.

3. The civil penalty shall not exceed one thousand dollars for each violation consistent with RCW 90.58.210 and WAC 173-27-270. Each permit violation or each day of continued development without a required permit shall constitute a separate violation.

Subchapter 2.

Geologic Hazard Areas

20.240.210 Geologic hazards – Designation and purpose.

A. Geologic hazard areas are those lands that are susceptible to erosion, landsliding, seismic, or other geological events as identified by WAC 365-190-120. These areas may not be suited for development activities because these areas may pose a threat to public health and safety. These areas also provide important shoreline ecological functions. Eroding coastal bluffs, called feeder bluffs, are the primary source of sediment for Puget Sound beaches and contribute to vital coastal processes. However, since most of the city's coastline consists of BNSF railroad right-of-way, opportunity for the natural erosion and sediment transport process is limited.

Areas susceptible to one or more of the following types of hazards shall be designated as geologic hazard areas:

1. Landslide hazard;

2. Seismic hazard;

3. Erosion hazard.

B. The primary purposes of geologic hazard area regulations are to avoid and minimize potential impacts to life and property from geologic hazards, conserve soil resources, protect shoreline ecological functions, and minimize structural damage relating to seismic hazards. This purpose shall be accomplished through appropriate levels of study and analysis, application of sound engineering principles, and regulation or limitation of land uses, including maintenance of existing vegetation, regulation of clearing and grading activities, and control of stormwater.

20.240.220 Geologic hazards – Classification.

Geologic hazard areas shall be classified according to the criteria in this section as follows:

A. **Landslide Hazard Areas.** Landslide hazard areas are those areas potentially subject to landslide activity based on a combination of geologic, topographic and hydrogeologic factors as classified in subsection B of this section with slopes 15 percent or steeper within a vertical elevation change of at least 10 feet or all areas of prior landslide activity regardless of slope. A slope is delineated by establishing its toe and top, and measuring the inclination over 10 feet of vertical relief (see Figure 20.240.220(A)). The edges of the geologic hazard are identified where

the characteristics of the slope cross-section change from one landslide hazard classification to another, or no longer meet any classification. Additionally:

1. The toe of a slope is a distinct topographic break which separates slopes inclined at less than 15 percent from slopes above that are 15 percent or steeper when measured over 10 feet of vertical relief; and

2. The top of a slope is a distinct topographic break which separates slopes inclined at less than 15 percent from slopes below that are 15 percent or steeper when measured over 10 feet of vertical relief.

Slope Delineation

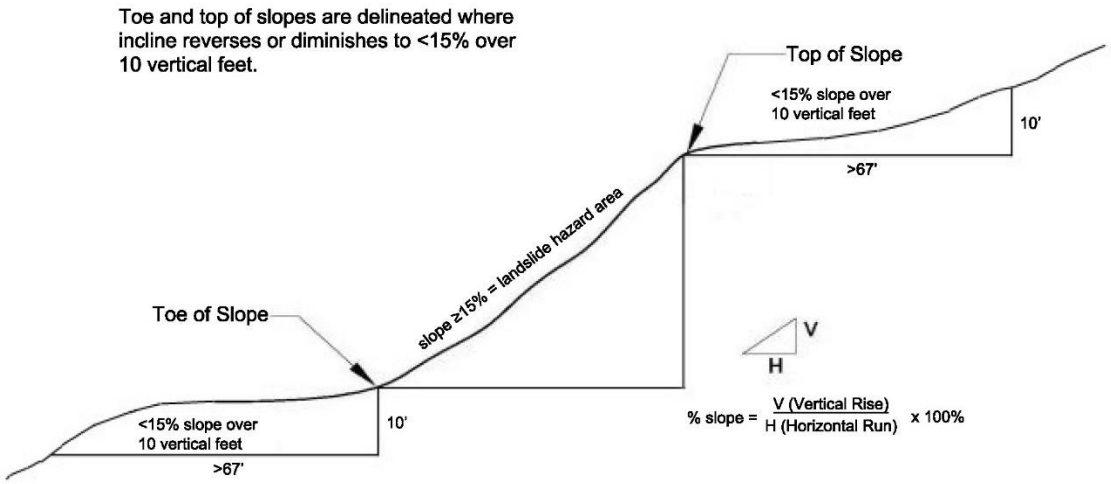

Figure 20.240.220(A): Illustration of slope calculation for determination of top and toe of landslide hazard area.

B. **Landslide Hazard Area Classification.** Landslide hazard areas are classified as follows:

1. **Moderate to High Risk.**

a. Areas with slopes between 15 percent and 40 percent and that are underlain by soils that consist largely of sand, gravel or glacial till that do not meet the criteria for very high risk areas in subsection (B)(2) of this section;

b. Areas with slopes between 15 percent and 40 percent that are underlain by soils consisting largely of silt and clay and do not meet the criteria for very high risk areas in subsection (B)(2) of this section; or

c. All slopes of 10 to 20 feet in height that are 40 percent slope or steeper and do not meet the criteria for very high risk in subsection (B)(2)(a) or (b) of this section.

2. **Very High Risk.**

a. Areas with slopes steeper than 15 percent with zones of emergent water (e.g., springs or ground water seepage);

b. Areas of landslide activity (scarps, movement, or accumulated debris) regardless of slope; or

c. All slopes that are 40 percent or steeper and more than 20 feet in height when slope is averaged over 10 vertical feet of relief.

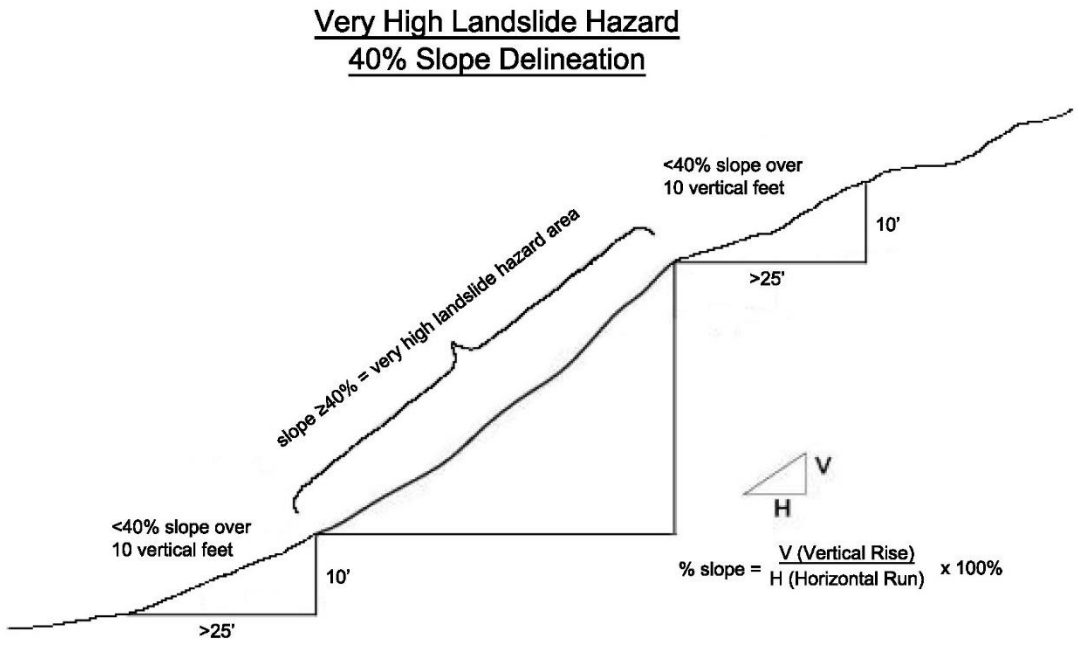

Figure 20.240.220(B): Illustration of very high risk landslide hazard area delineation (no midslope bench).

C. **Seismic Hazard Areas.** Seismic hazard areas are lands that, due to a combination of soil and ground water conditions, are subject to risk of ground shaking, lateral spreading, subsidence or liquefaction of soils during earthquakes. These areas are typically underlain by soft or loose saturated soils (such as alluvium) or peat deposits and have a shallow ground water table. These areas are designated as having “high” and “moderate to high” risk of liquefaction as mapped on the Liquefaction Susceptibility and Site Class Maps of Western Washington State by County by the Washington State Department of Natural Areas.

D. **Erosion Hazard Areas.** Erosion hazard areas are lands or areas underlain by soils identified by the U.S. Department of Agriculture Natural Resources Conservation Service (formerly the Soil Conservation Service) as having “severe” or “very severe” erosion hazards. This includes, but is not limited to, the following group of soils when such soils occur on slopes of 15 percent or greater: Alderwood-Kitsap (AkF), Alderwood gravelly sandy loam (AgD), Kitsap silt loam (KpD), Everett (EvD) and Indianola (InD).

20.240.222 Geologic hazards – Mapping.

A. The approximate location and extent of geologic hazard areas are shown on City of Shoreline geologic hazard data layers maintained in the City of Shoreline geographic information system (GIS). In addition, the following maps and resources providing information on the location and extent of geologic hazard areas are hereby adopted by reference as amended:

1. Washington Department of Ecology coastal zone atlas (for marine bluffs);

2. U.S. Geological Survey geologic maps, landslide hazard maps, and seismic hazard maps;

3. Washington State Department of Natural Resources seismic hazard maps for Western Washington, including, but not limited to, the Liquefaction Susceptibility and Site Class Maps of Western Washington State by County;

4. Washington State Department of Natural Resources slope stability maps; and

5. Soils maps produced by the U.S. Department of Agriculture, National Resources Conservation Service.

B. The critical areas maps and the resources cited above are to be used as a guide for the City of Shoreline Planning and Community Development Department, project applicants, and/or property owners and may be continuously updated as new critical areas are identified. These maps and resources are a reference and do not provide a final critical area designation.

20.240.224 Geologic hazards – Development standards.

A. Development, activities, and uses shall be allowed in geologic hazard areas and their required buffers only as provided for in this chapter.

B. **Activities Allowed in All Geologic Hazard Areas and Buffers.** The activities listed below are allowed in the identified geologic hazard areas types pursuant to SMC 20.240.040, Allowed activities, and subject to applicable permit approvals. These activities do not require submission of a critical area report.

1. All allowed activities per SMC 20.240.040;

2. Installation of fences as allowed without a building permit in Chapter 20.50 SMC, General Development Standards;

3. Nonstructural interior remodel, maintenance, or repair of structures which do not meet the standards of this chapter, if the maintenance or repair does not increase the footprint or height of the structure and there is no increased risk to life or property as a result of the proposed maintenance or repair; and

C. **Alteration.** The City may approve, condition, or deny proposals in a geologic hazard area based upon the effective mitigation of risks posed to property, health and safety and compensation of the loss of shoreline ecological functions. The objective of mitigation measures shall be to render a site containing a geologic hazard as safe as one not containing such hazard. Conditions may include applicable stormwater management practices, limitations of proposed uses, modification of density, alteration of site layout, and other appropriate changes to the proposal.

Where potential impacts cannot be effectively mitigated to ensure no net loss of the shoreline ecological functions provided by the critical area, and to eliminate a significant risk to public health and safety and property or other critical area, the proposal shall be denied, except as granted by a shoreline variance consistent with 20.220.040.

D. **Alteration of Moderate to High Risk Landslide Hazards.** Development activities and uses that result in unavoidable alterations may be permitted in moderate to high risk landslide hazard areas or their buffers in accordance with an approved geologic hazard critical area report. The recommendations contained within the critical area report shall be incorporated into the proposed alteration of the landslide hazard area or its buffers.

The critical area report shall certify that:

1. The risk of damage from the proposal, both on site, and off site, are minimal subject to the conditions set forth in the report;

2. The proposal will not increase the risk of occurrence of the potential landslide hazard; and

3. Measures to eliminate or reduce risks have been incorporated into the report's recommendations and project development plans.

E. **Alteration of Very High Risk Landslide Hazard Areas.** Alterations of a very high risk landslide hazard area and/or buffer may only occur for activities for which a critical area report with a hazards analysis is submitted and certifies that:

1. The development will not increase surface water discharge or sedimentation on site or to adjacent properties beyond pre-development conditions;

2. The development will not decrease slope stability on the site or on adjacent properties;

3. Such alterations will meet other critical areas regulations; and

4. The design criteria in subsection F of this section are met.

F. **Design Criteria for Alteration of Very High Risk Landslide Hazard Areas.** Development within a very high risk landslide hazard area and/or buffer shall be designed to meet the following basic requirements unless it can be demonstrated that an alternative project design provides greater short- and long-term slope stability while meeting all other provisions of this chapter. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function. The basic development design criteria are:

1. The proposed development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Proposed alteration of natural slopes, that does not include structures, shall not decrease the factor of safety for landslide occurrences below the limits of 1.3 for static conditions and 1.0 for seismic. Where the existing conditions are below these limits, the proposed development shall increase the factor of safety to these limits or will not be permitted. Analysis of dynamic conditions shall be based on the seismic event as established by the current version of the International Building Code;

2. New structures and improvements shall be clustered to avoid geologic hazard areas and other critical areas;

3. New structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;

4. New structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;

5. The proposed development shall not result in greater risk of the hazard or a need for increased buffers on neighboring properties;

6. Where the existing natural slope area cannot be retained undisturbed with native vegetation, the use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes; and

7. Development shall be designed to minimize impervious lot coverage and preserve native vegetation and trees to the maximum extent practicable.

G. **Additional Requirements for Alteration of Very High Risk Hazard Landslide Areas.**

1. Prior to application, the applicant shall meet the requirements of and conduct a neighborhood meeting consistent with SMC 20.30.090. The notification area shall be limited to:

a. All property owners whose properties adjoin the subject property; and

b. Properties that include part of the subject property's very high risk landslide hazard area and the standard 50-foot buffer, but not to exceed a maximum of 200 feet from the project clearing limits.

2. Prior to permit issuance, the property owner shall sign and record on title, at the owner's sole expense, a covenant in a form acceptable to the City, which:

a. Acknowledges and accepts the risks of development in the landslide hazard area;

b. Waives any rights to claims against the City;

c. Indemnifies and holds harmless the City against claims, losses, and damages;

d. Informs subsequent owners of the property of the risks and the covenant; and

e. Advisability of obtaining added insurance.

3. Prior to permit issuance, the piling and excavation contractors shall submit insurance bonding documentation that includes coverage for subsidence and underground property damage, listing the City as an additional insured. The Director may require adequate bonds and/or insurance to cover potential claims for property damage that may arise from or be related to the following:

a. Excavation or fill within a landslide-prone area when the depth of the proposed excavation exceeds four feet and the bottom of the proposed excavation is below the 100 percent slope line (45 degrees from a horizontal line) from the property line; or

b. In other circumstances where the Director determines that there is a potential for significant harm to any type of critical area or a critical area buffer during the construction process.

4. If the Building Official has reasonable grounds to believe that an emergency exists because significant changes in geologic conditions at a project site or in the surrounding area may have occurred since a permit was issued, increasing the risk of damage to the proposed development, to neighboring properties, or to nearby surface waters, the building official may, by letter or other reasonable means of notification, suspend the permit until the applicant has submitted a letter of certification. The letter of certification shall be based on such factors as the presence of known slides, indications of changed conditions at the site

or the surrounding area, or other indications of unstable soils and meet the following requirements:

a. The letter of certification shall be from the current project qualified professional geotechnical engineer of record stating that a qualified professional geotechnical engineer has inspected the site and area surrounding the proposed development within the 60 days preceding submittal of the letter; and that:

i. In the project geotechnical engineer's professional opinion no significant changes in conditions at the site or surrounding area have occurred that render invalid or out-of-date the analysis and recommendations contained in the technical reports and other application materials previously submitted to the City as part of the application for the permit; or that

ii. In the project geotechnical engineer's professional opinion, changes in conditions at the site or surrounding area have occurred that require revision to project criteria and that all technical reports and any necessary revised drawings that account for the changed conditions have been prepared and submitted.

5. The letter of certification and any required revisions shall be reviewed and approved by the City's third party qualified professional, at the applicant's expense, before the Building Official may allow work to continue under the permit.

H. **Alteration of Seismic Hazard Areas.** Development activities and uses in seismic hazard areas may be permitted, based on review of a critical area report demonstrating that the project is consistent with SMC 20.240.053(A)(2) through (6). The report shall certify that the risks of damage from the proposal, both on site and off site, are minimal subject to the conditions set forth in the report, that the proposal will not increase the risk of occurrence of the potential hazard, and that measures to eliminate or reduce risks have been incorporated into the report's recommendations. The report shall include the following:

1. For one-story and two-story detached residential structures, a qualified professional shall conduct an evaluation of site response and liquefaction potential based on current mapping, site reconnaissance, research of nearby studies.

2. For all other proposals, the qualified professional shall conduct an evaluation of site response and liquefaction potential including sufficient subsurface exploration to determine

the site coefficient for use in the static lateral force procedure described in the International Building Code.

I. **Alteration of Erosion Hazard Areas.** Development activities and uses in erosion hazard areas may be permitted, based on review of a critical area report demonstrating that the project is consistent with SMC 20.240.053(A)(2) through (6) and the following provisions:

1. All development proposals on sites containing erosion hazard areas shall include a stormwater pollution prevention plan consistent with the requirements of the adopted stormwater manual and a mitigation plan to ensure revegetation and permanent stabilization of the site. Specific requirements for revegetation in mitigation plans shall be consistent with the mitigation plan requirements in SMC 20.240.082 and the mitigation performance standards for geologic hazard areas in SMC 20.240.250. Revegetation for site stabilization may be combined with required landscape, tree retention, and/or other critical area mitigation plans as appropriate.

2. All subdivisions, short subdivisions or binding site plans on sites with erosion hazard areas shall comply with the following additional requirements:

a. Except as provided in this section, existing vegetation shall be retained on all lots until building permits are approved for development on individual lots;

b. If any vegetation on the lots is damaged or removed during construction of the subdivision infrastructure, the applicant shall be required to implement the revegetation plan in those areas that have been impacted prior to final inspection of the site development permit or the issuance of any building permit for the subject property;

c. Clearing of vegetation on individual lots may be allowed prior to building permit approval if the City determines that:

i. Such clearing is a necessary part of a large-scale grading plan,

ii. It is not feasible to perform such grading on an individual lot basis, and

iii. Drainage from the graded area will meet established water quality standards.

3. Where the City determines that erosion from a development site poses a significant risk of damage to downstream receiving water, the applicant shall be required to provide regular

monitoring of surface water discharge from the site during the project construction or installation. If the project does not meet water quality standards, the City may suspend further development work on the site until such standards are met.

4. The City may require additional mitigation measures in erosion hazard areas, including, but not limited to, the restriction of major soil-disturbing activities associated with site development between October 1st and April 30th to meet the stated purpose contained in SMC 20.240.010 and 20.240.210.

5. The use of hazardous substances, pesticides and fertilizers in erosion hazard areas may be prohibited by the City.

20.240.230 Geologic hazard areas – Required buffer areas.

A. Buffers for geologic hazard areas shall be maintained as undisturbed native vegetation consistent with SMC 20.240.090. Building and other improvement setbacks will be required in addition to buffers as recommended by the qualified professional to allow for landscaping, access around structures for maintenance, and location of stormwater facilities at safe distances from geologic hazard areas where native vegetation is not necessary to reduce the risk of the hazard.

B. Required buffer widths for geologic hazard areas shall reflect the sensitivity of the hazard area and the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the area.

C. In determining the appropriate buffer width, the City shall consider the recommendations contained in a geotechnical critical area report required by these regulations.

D. For moderate to high risk landslide hazard areas, the qualified professional shall recommend whether buffers should be required and the width of those buffers, as well as recommending any additional setbacks for buildings and stormwater facilities adequate to certify no increase in the risk of the hazard.

E. For very high risk landslide hazard areas, the standard buffer shall be 50 feet from all edges of the landslide hazard area. Larger buffers may be required as needed to eliminate or minimize the risk to people and property based on a geotechnical critical area report. The standard buffer may be reduced when geotechnical studies demonstrate, and the qualified

professional certifies, that the reduction will not increase the risk of hazard to people or property, on or off site; however, the minimum buffer shall be 15 feet.

F. Landslide hazard areas and associated buffers shall be placed either in a separate tract on which development is prohibited, protected by execution of an easement, dedicated to a conservation organization or land trust, or similarly preserved through a permanent protective mechanism acceptable to the City. The location and limitations associated with the critical landslide hazard and its buffer shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the King County Recorder's Office.

20.240.240 Geologic hazards – Critical area report requirements.

A. **Report Required.** If the Director determines that the site of a proposed development includes, is likely to include, or is adjacent to a geologic hazard area, a critical area report shall be required, at the applicant's expense. Critical area report requirements for geologic hazard areas are met through submission to the Director of one or more geologic hazard critical area reports (also referred to as geotech or geotechnical engineering reports). In addition to the general critical areas report requirements of SMC 20.240.080, critical areas reports for geologic hazard areas shall meet the requirements of this section. Critical areas reports for two or more types of critical areas shall meet the report requirements for each relevant type of critical area.

B. **Preparation by a Qualified Professional.** Critical areas reports for potential geologic hazard areas shall be prepared, stamped, and signed by a qualified geotechnical engineer or engineering geologist licensed in the State of Washington, with minimum required experience, per SMC 20.20.042, analyzing geologic, hydrologic, and ground water flow systems, and who has experience preparing reports for the relevant type of hazard. If mitigation measures are necessary, the report detailing the mitigation measures and design of the mitigation shall be prepared by a qualified professional with experience stabilizing geologic hazard areas with similar geotechnical properties and by a qualified vegetation ecologist, landscape architect, or arborist with experience designing and monitoring vegetative stabilization of geologic hazard areas.

C. **Third Party Review Required.** Critical areas studies and reports on geologically hazardous areas will be subject to third party review at the owner's sole expense as provided in SMC 20.240.080(C) and in the following circumstances:

1. A buffer reduction or alteration of the critical area or buffer is proposed for a very high risk landslide hazard areas.

D. **Minimum Report Contents for Geologic Hazard Areas.** A critical area report for geologic hazard areas shall include a field investigation, contain an assessment of whether or not each type of geologic hazard identified in SMC 20.240.210 is present or not present, and determine if the proposed development of the site will increase the risk of the hazard on or off site. The written critical area report(s) and accompanying plan sheet(s) shall contain the following information at a minimum:

1. The minimum report contents required per SMC 20.240.080(E);

2. Documentation of any fieldwork performed on the site, including field data sheets for soils, test pit locations, baseline hydrologic data, site photos, etc.;

3. A description of the methodologies used to conduct the geologic hazard areas delineations, classifications, hazards assessments and/or analyses of the proposal impacts including references;

4. **Site and Construction Plans.** The report shall include a copy of the site plans for the proposal, drawn at an engineering scale, showing:

a. The type and extent of geologic hazard areas, any other critical areas, and buffers on, adjacent to, off site within 200 feet of, or that are likely to impact or be affected by the proposal;

b. Proposed development, including the location of existing and proposed structures, fill, significant trees to be removed, vegetation to be removed, storage of materials, and drainage facilities;

c. The topography, in two-foot contours, of the project area and all hazard areas addressed in the report;

d. Height of slope, slope gradient, and cross-section of the project area;

e. The location of springs, seeps, or other surface expressions of ground water on or off site within 200 feet of the project area or that have the potential to affect or be affected by the proposal;

f. The location and description of surface water on or off site within 200 feet of the project area or that has the potential to be affected by the proposal; and

g. Clearing limits, including required tree protection consistent with SMC 20.50.370.

5. **Stormwater Pollution Prevention Plan (SWPPP).** For any development proposed with land-disturbing activities on a site containing a geologic hazard area, a stormwater pollution prevention plan (also known as an erosion and sediment control plan) shall be required. The SWPPP, in compliance with the requirements of Chapter 13.10 SMC, shall be included in the critical area report or be referenced if it is prepared separately.

6. **Assessment of Geological Characteristics.** The report shall include an assessment of the geologic characteristics of the soils, sediments, and/or rock of the project area and potentially affected adjacent properties, and a review of the site history regarding landslides, erosion, and prior grading. Soils analysis shall be accomplished in accordance with accepted classification systems in use in the region. The assessment shall include, but not be limited to:

a. A detailed overview of the field investigations, published data, and references; data and conclusions from past assessments of the site; and site-specific measurements, tests, investigations, or studies that support the identification of geologically hazardous areas; and

b. A summary of the existing site conditions, including:

i. Surface topography, existing features, and vegetation found in the project area and in all hazard areas addressed in the report;

ii. Surface and subsurface geology and soils to sufficient depth based on data from site-specific explorations;

iii. Geologic cross-section(s) displaying the critical design conditions;

iv. Surface and ground water conditions; and

c. A description of the vulnerability of the site to seismic and other geologic events.

7. **Analysis of Proposal.** The report shall contain a hazards analysis including a detailed description of the project, its relationship to the geologic hazard(s), and its potential impact upon the identified hazard area(s), the subject property, and affected adjacent properties. The hazards analysis component of the critical areas report shall include the following based on the type(s) of geologic hazard areas identified:

a. Recommendations for the minimum buffer consistent with SMC 20.240.230 and recommended minimum drainage and building setbacks from any geologic hazard based upon the geotechnical analysis. Buffers shall be maintained consistent with SMC 20.240.090; however, the qualified professional may recommend additional setbacks for drainage facilities or structures which do not have to be maintained as undisturbed native vegetation; and

b. An analysis of proposed surface and subsurface drainage, and the vulnerability of the site to erosion.

E. **Additional Technical Information Requirements for Landslide Hazard Areas.** The technical information required in a critical area report for a project within a landslide hazard area shall also include the following:

1. An estimate of the present stability of the subject property, the stability of the subject property during construction, the stability of the subject property after all development activities are completed, and a discussion of the relative risks and slide potential relating to adjacent properties during each stage of development, including the effect construction and placement of structures, clearing, grading, and removal of vegetation will have on the slope over the estimated life of the structure;

2. An estimate of the bluff retreat rate that recognizes and reflects potential catastrophic events such as seismic activity or a 100-year storm event;

3. Consideration of the run-out hazard of landslide debris and/or the impacts of landslide run-out on downslope properties;

4. A study of slope stability including an analysis of proposed cuts, fills, and other site grading;

5. Compliance with the requirements of SMC 20.240.224(D) for alterations proposed in moderate to high risk landslide hazard areas;

6. Compliance with the requirements of SMC 20.240.224(E) through (G) for alterations proposed in very high risk landslide hazard areas;

7. Parameters for design of site improvements including appropriate foundations and retaining structures. These should include allowable load and resistance capacities for bearing and lateral loads, installation considerations, and estimates of settlement performance;

8. Recommendations for drainage and subdrainage improvements;

9. Earthwork recommendations including clearing and site preparation criteria, fill placement and compaction criteria, temporary and permanent slope inclinations and protection, and temporary excavation support, if necessary; and

10. Mitigation of adverse site conditions including slope stabilization measures and seismically unstable soils, if appropriate.

F. **Additional Technical Information Requirements for Seismic Hazard Areas.** The technical information required in a critical area report for a project within a seismic hazard area shall also include the following:

1. A complete discussion of the potential impacts of seismic activity on the site (for example, forces generated and fault displacement);

2. Additionally, a geotechnical engineering report for a seismic hazard area shall evaluate the physical properties of the subsurface soils, especially the thickness of unconsolidated deposits and their liquefaction potential. If it is determined that the site is subject to liquefaction, mitigation measures appropriate to the scale of the development shall be recommended and implemented; and

3. Any additional information or analysis necessary to demonstrate compliance with the standards for alteration in seismic hazard areas in SMC 20.240.224(H).

G. **Limited Report Requirements for Stable Erosion Hazard Areas.** When recommended by the qualified professional for sites only overlain by erosion hazard areas with suitable slope

stability, and no other type of critical area or buffer, detailed critical areas report requirements may be waived. Report requirements for stable erosion hazard areas may be met through construction documents that shall include at a minimum a stormwater pollution plan prepared in compliance with requirements set forth in Chapter 13.10 SMC.

H. **Mitigation of Long-Term Impacts.** When hazard mitigation is required, the mitigation plan shall specifically address how the activity maintains or reduces the preexisting level of risk to the site and adjacent properties on a long-term basis (equal to or exceeding the projected lifespan of the activity or occupation). Proposed mitigation techniques shall be considered to provide long-term hazard reduction only if such techniques do not require regular maintenance or other actions to maintain their function. Mitigation may also be required to avoid any increase in risk above the preexisting conditions following abandonment of the activity.

I. **Additional Information.** When appropriate due to the proposed impacts or the project area conditions, the Director may also require the critical area report to include:

1. Where impacts are proposed, mitigation plans consistent with the requirements of SMC 20.240.082 and the geologic hazards mitigation performance standards and requirements of SMC 20.240.250;

2. A request for consultation with the Washington Department of Fish and Wildlife (DFW), Washington Department of Ecology (Ecology), local Native American Indian tribes, or other appropriate agency; and

3. Detailed surface and subsurface hydrologic features both on and adjacent to the site.

20.240.250 Geologic hazards – Mitigation performance standards and requirements.

A. **Requirements for Mitigation.** Mitigation is required for proposed adverse impacts and increased risks due to alteration of geologic hazard areas and shall be sufficient to result in no increased risk of the hazard consistent with the development standards in SMC 20.240.224. Mitigation plans shall be submitted as part of the required critical area report, consistent with the requirements of SMC 20.240.080, 20.240.082, and 20.240.240, and this section. When revegetation is required as part of the mitigation, then the mitigation plan shall meet the standards of SMC 20.240.350(H), excluding those standards that are wetland specific.

B. **Preference of Mitigation Actions.** Methods to achieve mitigation for alterations of geologic hazard areas shall be approached in the following order of preference:

1. **Protection.** Mitigation measures that increase the protection of the identified geologic hazard areas include, but are not limited to:

a. Increased or enhanced buffers;

b. Setbacks for permanent and temporary structures;

c. Reduced project scope; and

d. Retention of existing vegetation.

2. **Restoration.** Restoration of native vegetation.

3. **Engineered Stabilization.** Engineered design of geologic hazard stabilization to ensure no increased risk of the hazard due to the proposal with preference for bioengineering over structural engineered solutions.

C. **Performance Standards.** The following performance standards shall apply to any mitigation for development proposed within geologic hazard areas:

1. Geotechnical studies shall be prepared by a qualified professional to identify and evaluate potential hazards and to formulate mitigation measures;

2. Construction methods will reduce or not adversely affect geologic hazards;

3. Site planning to minimize disruption of existing topography and natural vegetation;

4. Significant trees shall be preserved, unless removal is unavoidable or otherwise allowed under the provisions of this chapter;

5. Minimize impervious surface coverage;

6. Replant disturbed areas as soon as feasible pursuant to an approved landscape plan. When planting is required, the following standards shall apply:

a. Native species, indigenous to the region, shall be used in any landscaping of disturbed or undeveloped areas and in any enhancement of habitat or buffers;

b. Plant selection shall be consistent with the existing or projected site conditions, including slope aspect, moisture, and shading;

c. Plants should be commercially available or available from local sources;

d. Plant species high in food and cover value for fish and wildlife shall be used;

e. Mostly perennial species should be planted;

f. Committing significant areas of the site to species that have questionable potential for successful establishment shall be avoided;

g. Plant selection, densities, and placement of plants shall be determined by a qualified professional and shown on the design plans;

h. Stockpiling soil and construction materials should be confined to upland areas and contract specifications should limit stockpiling of earthen materials to durations in accordance with City clearing and grading standards, unless otherwise approved by the City;

i. Planting instructions shall be submitted which describe placement, diversity, and spacing of seeds, tubers, bulbs, rhizomes, sprigs, plugs, and transplanted stock;

j. Controlled release fertilizer shall be applied (if required) at the time of planting and afterward only as plant conditions warrant as determined during the monitoring process;

k. An irrigation system shall be installed, if necessary, for the initial establishment period; and

l. The heterogeneity and structural diversity of vegetation shall be emphasized in landscaping;

7. Clearing and grading regulations as set forth by the City, in SMC 20.50.290 through 20.50.370, shall be followed;

8. The use of retaining walls that allow maintenance of existing natural slope areas are preferred over graded slopes;

9. All construction specifications and methods shall be approved by a qualified professional and the City;

10. Construction management shall be provided by a qualified professional. Ongoing work on site shall be inspected by the City;

11. Site drainage design and temporary erosion and sedimentation controls, pursuant to an approved stormwater pollution prevention plan consistent with the adopted stormwater manual, shall be implemented during and after construction;

12. Undevelopable geologic hazard areas larger than one-half acre shall be placed in a separate tract, provided this requirement does not make the lot nonconforming;

13. A monitoring program shall be prepared for construction activities permitted in geologic hazard areas; and

14. Development shall not increase instability, create a hazard to the site or adjacent properties, or result in a significant increase in sedimentation or erosion and adequate mitigation shall be incorporated into the project design to comply with the requirements of SMC 20.240.224 and 20.240.230.

Subchapter 3.

Fish and Wildlife Habitat Conservation Areas

20.240.260 Fish and wildlife habitat – Description and purpose.

A. Fish and wildlife habitat conservation areas (or habitat conservation areas) are lands managed for maintaining populations of species in suitable habitats within their natural geographic distribution so that the habitat available is sufficient to support viable populations over the long term and isolated subpopulations are not created. Fish and wildlife habitat conservation areas include areas with which State and Federal designated threatened, endangered, and sensitive species have a primary association as well as priority species and habitats listed by the Washington State Department of Fish and Wildlife, including corridors which connect priority habitat, and those areas which provide habitat for species of local significance, which have been or may be identified in the City of Shoreline Comprehensive Plan. Fish and wildlife habitat conservation areas also include stream areas and buffers which provide important habitat corridors; help maintain water quality; store and convey stormwater and

floodwater; recharge ground water; and serve as areas for recreation, education, scientific study, and aesthetic appreciation.

B. The purpose of fish and wildlife habitat conservation areas shall be to protect and conserve the habitat of fish and wildlife species and thereby maintain or increase their populations. The primary purpose of this section is to minimize development impacts to fish and wildlife habitat conservation areas and to:

1. Protect Federal and State listed habitats and species and give special attention to protection and enhancement of anadromous fish populations; and

2. Maintain a diversity of species and habitat within the City; and

3. Coordinate habitat protection to maintain and provide habitat connections; and

4. Help maintain air and water quality and control erosion.

20.240.270 Fish and wildlife habitat – Classification and designation.

A. The City designates the following fish and wildlife habitat conservation areas that meet one or more of the criteria in subsection B of this section, regardless of any formal identification, as critical area, and, as such, these areas are subject to the provisions of this chapter. These areas shall be managed consistent with best available science; including the Washington State Department of Fish and Wildlife's Management Recommendations for Priority Habitat and Species. The following fish and wildlife habitat conservation areas are specifically designated, and this designation does not preclude designation of additional areas as consistent with the criteria in subsection B of this section:

1. All regulated streams and wetlands and their associated buffers as determined by a qualified specialist.

2. The waters, bed and shoreline of Puget Sound up to the ordinary high water mark.

B. Fish and wildlife habitat conservation areas are those areas designated by the City based on review of the best available science; input from Washington Department of Fish and Wildlife, Washington Department of Ecology, U.S. Army Corps of Engineers, and other agencies; and any of the following criteria:

1. **Areas Where State or Federally Designated Endangered, Threatened, and Sensitive Species Have a Primary Association.**

a. Federally designated endangered and threatened species are those fish and wildlife species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service that are in danger of extinction or threatened to become endangered. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service should be consulted for current listing status. Federally designated endangered and threatened species known to be identified and mapped by the Washington State Department of Wildlife in Shoreline include, but may not be limited to, the following:

i. Chinook (Oncorhynchus tshawytscha);

ii. Southern resident orca or killer whales (Orcinus orca).

b. State designated endangered, threatened, and sensitive species are those fish and wildlife species native to the State of Washington that are in danger of extinction, threatened to become endangered, vulnerable, or declining and are likely to become endangered or threatened in a significant portion of their range within the State without cooperative management or removal of threats as identified by the Washington State Department of Fish and Wildlife. State designated endangered, threatened, and sensitive species are periodically recorded in WAC 232-12-014 (State endangered species) and WAC 232-12-011 (State threatened and sensitive species). The State Department of Fish and Wildlife maintains the most current listing and should be consulted for current listing status. State designated endangered, threatened, and sensitive species known to be identified and mapped by the Department of Fish and Wildlife in Shoreline include, but may not be limited to, the following:

i. Northern goshawk (Accipiter gentilis);

ii. Purple martin (Progne subis).

2. **State Priority Habitats and Species.** Priority habitats and species are considered to be priorities for conservation and management. Priority species require protective measures for their perpetuation due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority habitats are those habitat types or elements with unique or significant value to a diverse assemblage of species. A priority

habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element. Priority habitats and species are identified by the State Department of Fish and Wildlife (DFW) in the Priority Habitats and Species List. Priority habitats and species known to be identified and mapped by the Department of Fish and Wildlife in Shoreline include, but may not be limited to, the following:

a. Biodiversity areas and corridors identified and mapped along Boeing Creek and in and around Innis Arden Reserve Park;

b. Chinook/fall chinook (Oncorhynchus tshawytscha);

c. Coho (Oncrhynchus kisutch);

d. Dungeness crab (Cancer magister);

e. Estuarine intertidal aquatic habitat;

f. Geoduck (Panopea abrupta);

g. Northern goshawk (Accipiter gentilis);

h. Pacific sand lance (Ammodytes hexapterus);

i. Purple martin (Progne subis);

j. Resident coastal cutthroat (Oncorhynchus clarki);

k. Surf smelt (Hypomesus pretiosus); and

l. Winter steelhead (Oncorhynchus mykiss).

3. **Commercial and Recreational Shellfish Areas.** These areas include all public and private tidelands or bedlands suitable for shellfish harvest, including shellfish protection districts established pursuant to Chapter 90.72 RCW.

4. Kelp and eelgrass beds and herring and smelt spawning areas.

5. **Waters of the State.** Waters of the State include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses

within the jurisdiction of the State of Washington, as classified in WAC 222-16-030. Streams are those areas where surface waters produce a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses, unless such watercourses are used by fish or are used to convey streams naturally occurring prior to construction. A channel or bed need not contain water year-round; provided, that there is evidence of at least intermittent flow during years of normal rainfall. Streams shall be classified in accordance with the Washington Department of Natural Resources water typing system (WAC 222-16-030) hereby adopted in its entirety by reference and summarized as follows:

a. Type S: streams inventoried as "shorelines of the State" under Chapter 90.58 RCW and the rules promulgated pursuant to Chapter 90.58 RCW;

b. Type F: streams which contain fish habitat. Not all streams that are known to exist with fish habitat support anadromous fish populations, or have the potential for anadromous fish occurrence because of obstructions, blockages or access restrictions resulting from existing conditions. Therefore, in order to provide special consideration of and increased protection for anadromous fish in the application of development standards, shoreline streams shall be further classified as follows:

i. **Anadromous Fish-Bearing Streams (Type F-Anadromous).** These streams include:

(A) Fish-bearing streams where naturally recurring use by anadromous fish populations has been documented by a government agency;

(B) Streams that are fish passable or have the potential to be fish passable by anadromous populations, including those from Lake Washington or Puget Sound, as determined by a qualified professional based on review of stream flow, gradient and natural barriers (i.e., natural features that exceed jumping height for salmonids), and criteria for fish passability established by the Washington Department of Fish and Wildlife; and

(C) Streams that are planned for restoration in a six-year capital improvement plan adopted by a government agency or planned for removal of the private

dams that will result in a fish-passable connection to Lake Washington or Puget Sound; and

ii. **Nonanadromous Fish-Bearing Streams (Type F-Nonanadromous).** These include streams which contain existing or potential fish habitat, but do not have the potential for anadromous fish use due to natural barriers to fish passage, including streams that contain resident or isolated fish populations.

The general areas and stream reaches with access for anadromous fish are indicated in the City of Shoreline Stream and Wetland Inventory and Assessment (2004) and basin plans. The potential for anadromous fish access shall be confirmed in the field by a qualified professional as part of a critical area report;

c. Type Np: perennial nonfish habitat streams;

d. Type Ns: seasonal nonfish habitat streams; and

e. Piped stream segments: those segments of streams, regardless of their type, that are fully enclosed in an underground pipe or culvert.

20.240.272 Fish and wildlife habitat – Mapping.

A. **Mapping.** The approximate location and extent of fish and wildlife habitat areas are shown in the data layers maintained in the City of Shoreline geographic information system (GIS). In addition, the following maps and inventories are hereby adopted by reference as amended:

1. Washington Department of Fish and Wildlife Priority Habitat and Species maps;

2. Washington State Department of Natural Resources Official Water Type Reference maps;

3. Washington State Department of Natural Resources Puget Sound Intertidal Habitat Inventory maps;

4. Washington State Department of Natural Resources Shorezone Inventory;

5. Washington State Department of Natural Resources Natural Heritage Program mapping data;

6. Washington State Department of Health Annual Inventory of Shellfish Harvest Areas;

7. Anadromous and resident salmonid distribution maps contained in the Habitat Limiting Factors reports published by the Washington State Conservation Commission; and

8. Washington State Department of Natural Resources State Natural Area Preserves and Natural Resource Conservation Area maps.

B. The inventories and cited maps and resources are to be used as a guide for the City of Shoreline, project applicants, and/or property owners, and may be continuously updated as new fish and wildlife habitat conservation areas are identified or critical area reports are submitted for known fish and wildlife habitat conservation areas. The inventories, maps, and resources are a reference and do not provide a final critical area designation.

20.240.274 Fish and wildlife habitat – General development standards.

A. Development activities and uses shall be prohibited in fish and wildlife habitat conservation areas and associated buffers, except as provided for in this subchapter. Unless allowed under SMC 20.240.040, subsection C of this section, or SMC 20.240.276, development activities and uses that result in alteration of fish and wildlife habitat conservation areas shall be subject to the shoreline variance provisions of 20.220.040.

B. Any proposed alterations permitted, consistent with shoreline variance review, to fish and wildlife habitat conservation area shall require the preparation of a habitat conservation area mitigation plan (commonly referred to as a habitat management plan) to mitigate for the adverse impacts of the proposal, consistent with the recommendations specific to the habitat or species of the Washington State Department of Fish and Wildlife Priority Habitat Program. The habitat management plan shall be prepared by a qualified professional and reviewed and approved by the City, consistent with the standards for mitigation plans in SMC 20.240.082 and 20.240.300.

C. **Activities Allowed in Fish and Wildlife Habitat Conservation Areas.** The activities listed below are allowed in fish and wildlife habitat conservation areas pursuant to SMC 20.240.040, Allowed activities, and subject to applicable permit approvals. These activities do not require the submission of a critical area report and are exempt from monitoring and financial guarantee requirements, except where such activities result in a loss of the functions and values of a fish and wildlife habitat conservation area. These activities include:

1. Conservation or preservation of soil, water, vegetation, fish, shellfish, and/or other wildlife that does not entail changing the structure or functions of the existing habitat conservation area.

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 fish and wildlife habitat conservation area by changing existing topography, water conditions, or water sources.

3. Permitted alteration to a legally constructed structure existing within a fish and wildlife habitat conservation area buffer that does not increase the footprint of the development or hardscape or increase the impact to a fish and wildlife habitat conservation area, consistent with SMC 20.220.150.

4. Clearing, grading, and the construction of fences and arbors are allowed within the required 10-foot stream buffers for a piped stream segment. if no other critical area or buffer is present.

D. **Nonindigenous Species.** No plant, wildlife, or fish species not indigenous to the region shall be introduced into a fish and wildlife habitat conservation area unless authorized by a State or Federal permit or approval.

E. **Mitigation and Contiguous Corridors.** Mitigation sites shall be located to preserve or achieve contiguous wildlife habitat corridors in accordance with a mitigation plan that is part of an approved critical area report to minimize the isolating effects of development on habitat areas, so long as mitigation of aquatic habitat is located within the same aquatic ecosystem as the area disturbed.

F. **Approvals of Activities.** The Director shall condition approvals of development activities allowed within or adjacent to a fish and wildlife habitat conservation area, as necessary to minimize or mitigate any potential adverse impacts. Conditions shall be based on the best available science and may include, but are not limited to, the following:

1. Establishment of buffers;

2. Preservation of important vegetation and/or habitat features such as snags and downed wood specific to the priority wildlife species in the fish and wildlife habitat conservation area;

3. Limitation of access to the habitat area, including fencing to deter unauthorized access;

4. Seasonal restriction of construction activities;

5. Establishment of a duration and timetable for periodic review of mitigation activities; and

6. Requirement of a performance bond, when necessary, to ensure completion and success of proposed mitigation.

G. **Mitigation and Equivalent or Greater Shoreline Ecological Functions.** Mitigation of alterations to fish and wildlife habitat conservation areas shall achieve equivalent or greater shoreline ecological, biological, and hydrologic functions and shall include mitigation for adverse impacts upstream from, downstream from, or within the same shoreline reach as the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis. Mitigation shall be located on site except when demonstrated that a higher level of ecological functioning would result from an off-site location. Mitigation shall be detailed in a fish and wildlife habitat conservation area mitigation plan, consistent with the requirements of SMC 20.240.300.

H. **Approvals and the Best Available Science.** Any approval of alterations or impacts to a fish and wildlife habitat conservation area shall be supported by the best available science.

I. **Buffers.**

1. **Establishment of Buffers.** The Director shall require the establishment of buffer areas for activities adjacent to fish and wildlife habitat conservation areas in order to protect fish and wildlife habitat conservation areas. Buffers shall consist of an undisturbed area of native vegetation or areas identified for restoration established to protect the integrity, functions, and values of the affected habitat. Required buffer widths shall reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby and shall be consistent with the applicable management recommendations issued by the Washington Department of Fish and Wildlife.

2. **Seasonal Restrictions.** When a species is more susceptible to adverse impacts during specific periods of the year, seasonal restrictions may apply. Larger buffers may be required and activities may be further restricted during the specified season.

3. **Habitat Buffer Averaging.** The Director may allow the recommended fish and wildlife habitat area buffer width to be reduced in accordance with a critical area report, the best available science, and the applicable management recommendations issued by the Washington Department of Fish and Wildlife, only if:

a. It will not reduce stream or habitat functions;

b. It will not adversely affect fish and wildlife habitat;

c. It will provide additional natural resource protection, such as buffer enhancement;

d. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; and

e. The buffer width is not reduced by more than 25 percent in any location.

J. **Signs and Fencing of Fish and Wildlife Habitat Conservation Areas.**

1. **Temporary Markers.** The outer perimeter of the fish and wildlife habitat conservation area or 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 Director prior to the commencement of permitted activities during the preconstruction meeting required under SMC 20.50.330(E). This temporary marking and fencing shall be maintained throughout construction and shall not be removed until permanent signs, if required, are in place.

2. **Permanent Signs.** As a condition of any permit or authorization issued pursuant to this chapter, the Director may require the applicant to install permanent signs along the boundary of a fish and wildlife habitat conservation area or buffer, when recommended in a critical area report or otherwise required by the provisions of this chapter.

a. Permanent signs shall be made of an enamel-coated metal face and attached to a metal post or another material of equal durability and nonhazardous. Signs shall be posted at an interval of one per lot or every 50 feet, whichever is less, and shall be maintained by the property owner in perpetuity. The signs shall be worded consistent

with the text specified in SMC 20.240.110 or with alternative language approved by the Director.

b. The provisions of subsection (J)(2)(a) of this section may be modified as necessary to assure protection of sensitive features or wildlife.

3. **Fencing.** 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 habitat impacts. Permanent fencing shall be required at the outer edge of the fish and wildlife habitat conservation area buffer under the following circumstances; provided, that the Director may waive this requirement:

a. As part of any development proposal for subdivisions, short plats, multifamily, mixed use, and commercial development where the Director determines that such fencing is necessary to protect the shoreline ecological functions of the fish and wildlife habitat conservation area; provided, that breaks in permanent fencing may be allowed for access to allowed uses (subsection C of this section and SMC 20.240.280(D));

b. As part of development proposals for public and private parks where the adjacent proposed use is active recreation and the Director determines that such fencing is necessary to protect the shoreline ecological functions of the fish and wildlife habitat conservation area;

c. When buffer averaging is part of a development proposal; or

d. At the Director's discretion, to protect the shoreline ecological functions of the fish and wildlife habitat conservation area, as demonstrated in a critical area report. If found to be necessary, the Director shall condition any permit or authorization issued pursuant to this chapter to require the applicant to install a permanent fence at the edge of the fish and wildlife habitat conservation area or buffer, when fencing will prevent future impacts to the fish and wildlife habitat conservation area.

e. The applicant shall be required to install a permanent fence around the fish and wildlife habitat conservation area or buffer when domestic grazing animals, only as allowed under SMC 20.40.240, are present or may be introduced on site.

K. **Subdivisions.** The subdivision and short subdivision of land in fish and wildlife habitat conservation areas and associated buffers is subject to the following:

1. Land that is located wholly within a fish and wildlife habitat conservation area or its buffer may not be subdivided;

2. Land that is located partially within a fish and wildlife habitat conservation area or its buffer may be divided; provided, that the developable portion of each new lot and its access is located outside of the fish and wildlife habitat conservation area or its buffer. The final lots shall each meet the minimum lot size requirements of SMC 20.50.020.

3. Access roads and utilities serving the proposed subdivision may be permitted within the fish and wildlife habitat conservation area and associated buffers only if the applicant's qualified professional(s) demonstrate, and the City determines, that no other feasible alternative exists, all unavoidable impacts are fully mitigated, and the use is consistent with this chapter.

20.240.276 Fish and wildlife habitat – Specific habitat development standards.

In addition to the provisions in SMC 20.240.274, the following development standards apply to the specific habitat types identified below:

A. **Endangered, Threatened, and Sensitive Species.**

1. No development shall be allowed within a fish and wildlife habitat conservation area or buffer with which State or Federally endangered, threatened, or sensitive species have a primary association, except that which is provided for by a management plan established by the Washington Department of Fish and Wildlife or applicable State or Federal agency.

2. Whenever activities are proposed adjacent to a fish and wildlife habitat conservation area with which State or Federally endangered, threatened, or sensitive species have a primary association, such area shall be protected through the application of protection measures in accordance with a critical area report prepared by a qualified professional and approved by the City. Approval for alteration of the fish and wildlife habitat conservation area or its buffer shall not occur prior to consultation with the Washington Department of Fish and Wildlife for animal species, the Washington State Department of Natural Resources for plant species, and other appropriate Federal or State agencies.

B. **Anadromous Fish.**

1. All activities, uses, and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of anadromous fish habitat, including, but not limited to, adhering to the following standards:

a. Subsection A of this section applies to anadromous fish where those populations are identified as endangered, threatened or sensitive species;

b. Activities shall be timed to occur only during the allowable work window as designated by the Washington Department of Fish and Wildlife for the applicable species;

c. An alternative alignment or location for the activity is not feasible;

d. The activity is designed so that it will not degrade the shoreline ecological function of the fish habitat or other critical areas;

e. Shoreline erosion control measures shall be designed to use bioengineering methods or soft armoring techniques, according to an approved critical area report; and

f. Any impacts to the shoreline ecological function of the fish and wildlife habitat conservation area are mitigated in accordance with an approved critical area report.

2. Structures that prevent migration shall not be allowed in the portion of water bodies currently or historically used by anadromous fish. Fish bypass facilities shall be provided, consistent with RCW 77.57.030, that allow the upstream migration of adult fish and prevent fry and juveniles migrating downstream from being trapped or harmed.

3. Fills, when authorized by the City and all applicable joint aquatic resource permit application approvals, shall not adversely impact anadromous fish or their habitat or shall mitigate any unavoidable impacts and shall only be allowed for a water-dependent use.

C. **Wetland Habitats.** All proposed activities within or adjacent to fish and wildlife habitat conservation areas containing wetlands shall conform to the wetland development performance standards set forth in Chapter 20.240 SMC, Subchapter 4, Wetlands. If nonwetlands habitat and

wetlands are present at the same location, the provisions of this subchapter or the Wetlands subchapter, whichever provides greater protection to the habitat, apply.

D. **Streams.** Activities, uses and alterations of streams shall be prohibited, subject to the shoreline variance provisions (SMC 20.220.040), unless otherwise allowed by the allowed activities provisions of this chapter. No alteration to a stream buffer shall be permitted unless consistent with the provisions of this chapter and the specific standards for development outlined below.

1. **Type S and Type F-Anadromous Streams.** Development activities and uses that result in alteration of Type S and Type F-anadromous streams and their associated buffers shall be prohibited subject to the shoreline variance provisions of SMC 20.220.040.

2. **Type F-Nonanadromous and Type Np Streams.** Development activities and uses that result in alteration of Type F-nonanadromous and Type Np streams are prohibited subject to the shoreline variance provisions of SMC 20.220.040.

3. **Type Ns Streams.** Development activities and uses that result in unavoidable impacts may be permitted in Type Ns streams and associated buffers in accordance with an approved critical area(s) report and compensatory mitigation plan, and only if the proposed activity is the only reasonable alternative that will meet the purpose and intent of the regulations. Full compensation for the loss of acreage and functions of streams and buffers shall be provided in compliance with the mitigation performance standards and requirements of these regulations.

4. **Stream Crossing.** Crossing of streams may be permitted based on the findings in a critical area report, subject to the limitations in subsections (D)(1), (2), and (3) of this section, and consistent with the following:

a. **Bridges.** Bridges shall be used to cross Type S and Type F-anadromous streams. Culverted crossings and other obstructive means of crossing Type S and Type F-anadromous streams shall be prohibited; and

b. **Culverts.** Culverts are allowed for crossing of Type F-nonanadromous, Np, and Ns streams when fish passage will not be impaired and when the following design criteria and conditions are met:

i. Oversized culverts, that allow for fish passage and floodplain or wetland connectivity, will be installed;

ii. Culverts for Type F streams shall be designed for fish passage that will allow natural stream functions and processes to occur (i.e., sediment, wood, and debris transport) where appropriate;

iii. Gravel substrate will be placed in the bottom of the culvert to a minimum depth of one foot for Type F streams;

iv. A maintenance covenant shall be recorded on title with King County that requires the property owner to, at all times, keep any culvert free of debris and sediment to allow free passage of water and, if applicable, fish; and

v. The City may require that a culvert be removed from a stream as a condition of approval, unless it is demonstrated conclusively that the culvert is not detrimental to fish habitat or water quality, or removal would be detrimental to fish or wildlife habitat or water quality.

5. **Relocation.** Relocation of a Type S, F, or Np stream may be allowed, subject to the limitations in subsections (D)(1) and (2) of this section, and only when the proposed relocation is part of an approved mitigation or rehabilitation plan, will result in equal or better habitat and water quality, and will not diminish the flow capacity of the stream. Relocation of a Type Ns stream may be allowed, subject to the limitation in subsection (D)(3) of this section, and only when the proposed relocation will result in equal or better habitat and water quality and will not diminish the flow capacity of the stream.

6. **Restoring Piped Watercourses.** The City allows the voluntary opening of previously channelized/culverted streams and the rehabilitation and restoration of streams. Restoring piped watercourses may be approved, consistent with the following:

a. When piped watercourse sections are restored, a protective buffer shall be required of the stream section. The buffer distance shall be consistent with the buffer relief that may be granted consistent with SMC 20.240.056, Voluntary critical area restoration projects. The stream and buffer area shall include habitat improvements and measures to prevent erosion, landslide, and water quality impacts. Opened channels shall be designed to support fish and wildlife habitat and uninhibited fish access, unless

determined to be unfeasible as demonstrated in a restoration plan reviewed and approved by the City;

b. Removal of pipes conveying streams shall only occur when the City determines that the proposal will result in an improvement of water quality and ecological functions and will not significantly increase the threat of erosion, flooding, slope stability, or other hazards; and

c. Where the buffer of the restored stream would extend onto an adjacent property, the applicant shall obtain a written agreement from the affected neighboring property owner prior to the City approving the restoration of the piped watercourse.

E. **Priority Species.** Fish and wildlife habitat conservation areas or buffers with Priority Species shall be subject to the following:

1. Development activities and uses that result in unavoidable impacts may be permitted in priority species habitat areas and associated buffers in accordance with an approved critical area(s) report and habitat management plan, and only if the proposed activity is the only reasonable alternative that will meet the purpose and intent of the regulations. Full compensation for the loss of acreage and functions of habitat and buffer areas shall be provided in compliance with the mitigation performance standards and requirements of these regulations.

20.240.280 Fish and wildlife habitat – Required buffer areas.

A. Buffer widths for fish and wildlife habitat areas shall be based on consideration of the following factors: species-specific recommendations of the Washington State Department of Fish and Wildlife; recommendations contained in a habitat management plan submitted by a qualified professional; and the nature and intensity of land uses and activities occurring on the land adjacent to the site.

B. Low-impact uses and activities which are consistent with the purpose and function of the habitat buffer and do not detract from its integrity may be permitted within the buffer depending on the sensitivity of the habitat area. Examples of uses and activities which may be permitted in appropriate cases include trails that are pervious, viewing platforms, low-impact stormwater management facilities such as bioswales and other similar uses and activities; provided, that any impacts to the buffer resulting from such permitted facilities shall be fully mitigated.

C. **Standard Required Stream Buffer Widths.** Buffer widths shall reflect the sensitivity of the stream type, the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the stream area. Stream buffers shall be measured from the ordinary high water mark (OHWM) or the top of the bank, if the OHWM cannot be determined. Buffers shall be measured with rounded ends where streams enter or exit piped segments.

1. The following buffers are established for streams based upon the Washington State Department of Natural Resources water typing system and further classification based on anadromous or nonanadromous fish presence for the Type F streams:

Table 20.240.280(1)

Stream Type	**Standard Buffer Width (ft)**
Type S	150
Type F-anadromous	115
Type F-nonanadromous	75
Type Np	65
Type Ns	45
Piped Stream Segments	10

2. **Increased Stream Buffer Widths.** The recommended stream buffer widths shall be increased, as follows:

a. When the qualified professional determines that the recommended width is insufficient to prevent habitat degradation and to protect the structure and functions of the habitat area;

b. When the flood hazard area exceeds the recommended stream buffer width, the stream buffer area shall extend to the outer edge of the flood hazard area;

c. When a channel migration zone is present, the stream buffer width shall be measured from the outer edge of the channel migration zone;

d. When the habitat area is in an area of high blowdown potential, the stream buffer width shall be expanded an additional 50 feet on the windward side; or

e. When the habitat area is within an erosion or landslide hazard area, or buffer, the stream buffer width shall be the recommended distance, or the erosion or landslide hazard area or buffer, whichever is greater.

3. **Stream Buffer Width Averaging with Enhancement.** The Director may allow the recommended stream buffer width to be reduced in accordance with an approved critical area report and the best available science, on a case-by-case basis, by averaging buffer widths. Any allowance for averaging buffer widths shall only be granted based on the development and implementation of a buffer enhancement plan for areas of buffer degradation, consistent with the provisions in subsection (C)(4) of this section. Only those portions of the stream buffer existing within the project area or subject parcel shall be considered in the total buffer area for buffer averaging. Averaging of buffer widths may only be allowed where a qualified professional demonstrates that:

a. The width reduction and buffer enhancement plan provides evidence that the stream or habitat functions, including those of nonfish habitat and riparian wildlife, will be:

i. Increased or maintained through plan implementation for those streams where existing buffer vegetation is generally intact native vegetation; or

ii. Increased through plan implementation for those streams where existing buffer vegetation is inadequate to protect the functions and values of the stream;

b. The total area contained in the buffer area of each stream on the development proposal site is not decreased after averaging;

c. The recommended riparian habitat area width is not reduced by more than 25 percent in any one location; and

d. The width reduction will not be located within another critical area or associated buffer.

4. **Stream Buffer Enhancement Measures.** The measures determined most applicable and/or appropriate will be considered in buffer averaging requirements. These include but are not limited to:

a. Removal of fish barriers to restore accessibility to fish.

b. Enhancement of fish habitat using log structures incorporated as part of a fish habitat enhancement plan.

c. Enhancement of fish and wildlife habitat structures that are likely to be used by wildlife, including wood duck houses, bat boxes, nesting platforms, snags, rootwads/stumps, birdhouses, and heron nesting areas.

d. Additional enhancement measures may include:

i. Planting native vegetation within the buffer area, especially vegetation that would increase value for fish and wildlife, increase stream bank or slope stability, improve water quality, or provide aesthetic/recreational value; or

ii. Creation of a surface channel where a stream was previously underground, in a culvert or pipe. Surface channels which are “daylighted” shall be located within a buffer area and shall be designed with energy dissipating functions or channel roughness features such as meanders and rootwads to reduce future bank failures or nearby flooding;

iii. Removal or modification of existing stream culverts (such as at road crossings) to improve fish passage, stream habitat, and flow capabilities; or

iv. Upgrading of retention/detention facilities or other drainage facilities beyond required levels.

D. **Stream Buffer Allowed Uses and Alteration.** Activities and uses shall be prohibited in stream buffers, except as provided for in this chapter. Stream buffers shall be maintained as undisturbed or restored natural vegetation. No clearing or grading activities are allowed within required stream buffers except as allowed under SMC 20.240.040, 20.240.274, or consistent with an approved buffer enhancement plan consistent with the provisions of this subchapter. No structures or improvements shall be permitted within the stream buffer area, including buildings,

decks, docks, except as otherwise permitted or required under this chapter, or under one of the following circumstances:

1. **Approved Mitigation.** When the improvements are part of an approved rehabilitation or mitigation plan; or

2. **Trails.** Construction of trails over and in the buffer of piped stream segments, and the construction of trails near other stream segments, consistent with the following criteria:

a. Trails should be constructed of pervious surface, with preference for natural materials. Raised boardwalks utilizing nontreated pilings may be acceptable;

b. Trails shall be designed in a manner that minimizes impact on the stream system;

c. Trails shall have a maximum trail corridor width of five feet; and

d. Trails should be located within the outer 25 percent of the buffer, i.e., that portion of the buffer that is farther away from the stream and located to avoid removal of significant trees; or

3. **Footbridges.** Construction of footbridges that minimize the impact to the stream system; or

4. **Informational Signs.** Construction and placement of informational signs or educational demonstration facilities limited to no more than one square yard surface area and four feet high, provided there is no permanent infringement on stream flow; or

5. **Stormwater Management Facilities.** Establishment of low-impact stormwater management facilities, such as stormwater dispersion outfalls and bioswales, may be allowed within stream buffers consistent with the adopted stormwater manual; provided, that:

a. No other location is feasible;

b. Pipes and conveyance facilities only in the outer 25 percent of the standard buffer area as set forth in Table 20.240.280(1);

c. Stormwater dispersion outfalls, bioswales, bioretention facilities, and other low-impact facilities consistent with the adopted stormwater manual may be allowed anywhere within stream buffers when determined by a qualified professional that the location of the facility will enhance the buffer area and protect the stream; and

d. Such facilities are designed consistent with the requirements of SMC 20.70.330.

6. **Development Proposals within Physically Separated and Functionally Isolated Stream Buffers.** Consistent with the definition of "buffers" (SMC 20.20.012), areas that are functionally isolated and physically separated from stream due to existing, legally established roadways and railroads or other legally established structures or paved areas eight feet or more in width that occur between the area in question and the stream shall be considered physically isolated and functionally separated stream buffers. Once determined by the Director, based on a submitted critical area report to be a physically separated and functionally isolated stream buffer, development proposals shall be allowed in these areas.

20.240.290 Fish and wildlife habitat – Critical area report requirements.

A. **Report Required.** If the Director determines that the site of a proposed development includes, is likely to include, or is adjacent to a fish and wildlife habitat conservation area, a critical area report shall be required. Critical area report requirements for fish and wildlife habitat conservation areas are generally met through submission to the Director of one or more fish and wildlife habitat critical area reports. In addition to the general critical area report requirements of SMC 20.240.080, critical area reports for fish and wildlife habitat conservation areas shall meet the requirements of this section. Critical area reports for two or more types of critical areas shall meet the report requirements for each relevant type of critical area.

B. **Preparation by a Qualified Professional.** Critical areas reports for a habitat conservation area shall be prepared and signed by a qualified professional who is a biologist, ecologist, or other scientist with the minimum required experience, per SMC 20.20.042, related to the specific type(s) of fish and wildlife habitats identified.

C. **Third Party Review Required.** Critical areas studies and reports on fish and wildlife habitat conservation areas shall be, at the applicant's sole expense, subject to third party review, consistent with SMC 20.240.080(C), and in any of the additional following circumstances:

1. Mitigation is required for impacts to Type S, Type F, or Type Np streams and/or buffers; or

2. Mitigation is required for impacts to Type Ns streams.

D. **Minimum Report Contents for Fish and Wildlife Habitat Conservation Areas.** The critical area written report(s) and accompanying plan sheet(s) shall contain the following information at a minimum:

1. The minimum report contents required per SMC 20.240.080(E);

2. Documentation of any fieldwork performed on the site, including field data sheets for delineations, water typing and other habitat conservation area classification, baseline hydrologic data, site photos, etc.;

3. A description of the methodologies used to conduct the delineations, classifications, or impact analyses, including reference;

4. **Site Plans.** A copy of the site plan sheet(s) for the project shall be included with the written report and shall include, at a minimum:

a. Maps (to scale) depicting delineated and surveyed fish and wildlife habitat conservation areas and required buffers on site, including buffers for off-site critical areas that extend onto the project site; the development proposal; other critical areas; clearing and grading limits; areas of proposed impacts to fish and wildlife habitat conservation areas and/or buffers (include square footage estimates); and

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 fish and wildlife habitat conservation areas associated with anticipated hydroperiod alterations from the project;

5. **Habitat Assessment.** A habitat assessment is an investigation of the project area to evaluate the potential presence or absence of designated critical fish or wildlife species or habitat. A critical area report for a fish and wildlife habitat conservation area shall contain an

assessment of habitats including the following site- and proposal-related information at a minimum:

a. Detailed description of vegetation on and adjacent to the project area and its associated buffer;

b. Identification of any species of local importance, priority species, or endangered, threatened, sensitive, or candidate species that have a primary association with habitat on or adjacent to the project area, and assessment of potential project impacts to the use of the site by the species;

c. A discussion of any Federal, State, or local special management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the project area;

d. A detailed discussion of the direct and indirect potential impacts on habitat by the project, including potential impacts to water quality;

e. A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing habitats and restore any habitat that was degraded prior to the current proposed land use activity and to be conducted in accordance with SMC 20.240.053;

f. A discussion of ongoing management practices that will protect habitat after the project site has been developed, including proposed monitoring and maintenance programs; and

6. **Additional Technical Information Requirements for Streams.** Critical area reports for streams shall be consistent with the specific development standards for streams in SMC 20.240.276 and 20.240.280 and may be met through submission of one or more specific report types. If stream buffer enhancement is proposed to average stream buffer width, a stream buffer enhancement plan shall be submitted in addition to other critical area report requirements of this section. If no project impacts are anticipated and standard stream buffer widths are retained, a stream delineation report, general critical areas report or other reports, alone or in combination, may be submitted as consistent with the specific requirements of this section. In addition to the basic critical area report requirements for fish

and wildlife habitat conservation areas provided in subsections A through C of this section, technical information on streams shall include the following information at a minimum:

a. A written assessment and accompanying maps of the stream and associated hydrologic features on and off site within 200 feet of the project area, including the following information at a minimum:

i. Stream survey showing the field delineated ordinary high water mark(s);

ii. Standard stream buffer boundary;

iii. Boundary for proposed stream buffers averaging, if applicable;

iv. Vegetative, faunal, and hydrologic characteristics;

v. Soil and substrate conditions; and

vi. Topographic elevations, at two-foot contours;

b. A detailed description and functional assessment of the stream buffer under existing conditions pertaining to the protection of stream functions, fish habitat and, in particular, potential anadromous fisheries;

c. A habitat and native vegetation conservation strategy that addresses methods to protect and enhance on-site habitat and stream functions;

d. Proposed buffer enhancement, if needed, including a written assessment and accompanying maps and planting plans for buffer areas to be enhanced, including the following information at a minimum:

i. A description of existing buffer conditions;

ii. A description of proposed buffer conditions and how proposed conditions will increase buffer functions in terms of stream and fish habitat protection;

iii. Performance standards for measuring enhancement success through a monitoring period of at least five years; and

iv. Provisions for monitoring and submission of monitoring reports documenting buffer conditions, as compared to performance standards, for enhancement success;

e. A discussion of ongoing management practices that will protect the shoreline ecological function of the stream through maintenance of vegetation density within the stream buffer.

E. **Additional Information.** When appropriate due to the type of habitat or species present or the project area conditions, the Director may also require the critical area report to include:

1. Where impacts are proposed, mitigation plans consistent with the requirements of SMC 20.240.082 and the fish and wildlife habitat mitigation performance standards and requirements of SMC 20.240.300;

2. Third party review to include any recommendations as appropriate by a qualified professional, under contract with or employed by the City, may be required at the applicant's expense of the critical area report analysis and the effectiveness of any proposed mitigating measures or programs;

3. A request for consultation with the Washington State Department of Fish and Wildlife (DFW), Washington Department of Ecology (Ecology), local Native American Indian tribes or other appropriate agency;

4. Copies of the joint aquatic resource permit application (JARPA) and related approvals, such as a hydraulic project approval (HPA) from the DFW, when applicable to the project; and

5. Detailed surface and subsurface hydrologic features both on and adjacent to the site.

20.240.300 Fish and wildlife habitat – Mitigation performance standards and requirements.

A. **Requirements for Mitigation.** Where impacts cannot be avoided, and the applicant has exhausted all feasible design alternatives, the applicant or property owner shall seek to implement other appropriate mitigation actions in compliance with the intent, standards and criteria of this section. Mitigation provisions shall be applied through the shoreline variance provisions in SMC 20.220.040, unless mitigated alterations are specifically allowed by the provisions of this subchapter. In an individual case, these actions may include consideration of

alternative site plans and layouts, reductions in the density or scope of the proposal, and/or implementation of the performance standards listed in this section.

B. **Additional Requirements for Stream Mitigation.** Significant adverse impacts to the shoreline ecological function of the stream area shall be mitigated. Mitigation actions shall be implemented in the preferred sequence: avoidance, minimization, restoration and replacement. Proposals which include less preferred and/or compensatory mitigation shall demonstrate that:

1. All feasible and reasonable measures will be taken to reduce impacts and losses to the stream, or to avoid impacts where avoidance is required by these regulations;

2. The restored, created or enhanced stream area or buffer will be available and persistent as the stream or buffer area it replaces; and

3. No overall net loss will occur in the shoreline ecological functions of the stream.

C. **Compensating for Lost or Impacted Functions.** Mitigation of alterations to fish and wildlife habitat shall achieve equivalent or greater shoreline ecological, biological, and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site on a per function basis. Mitigation shall be located on site except when demonstrated that a higher level of ecological functioning would result from an off-site location. A mitigation plan may include the following:

1. Native vegetation planting plan;

2. Retention, enhancement or restoration plan of specific habitat features;

3. Plans for control of nonnative invasive plant or wildlife species; and

4. Stipulations for use of innovative, sustainable building practices.

D. **Preference of Mitigation Actions.** Methods to achieve compensation for the shoreline ecological function of fish and wildlife habitat shall be approached in the following order of preference:

1. **Protection.** Mitigation measures that increase the protection of the identified fish and wildlife habitat conservation areas may include but are not limited to:

a. Increased or enhanced buffers;

b. Setbacks for permanent and temporary structures;

c. Reduced project scope;

d. Limitations on construction hours;

e. Limitations on hours of operation; and/or

f. Relocation of access;

2. **Restoration.** Restoration of degraded habitat.

3. **Creation.** Creation (establishment) of wildlife habitat on disturbed upland sites such as those with vegetative cover consisting primarily of nonnative species. This should be attempted only when the site conditions are conducive to the habitat type that is anticipated in the design.

4. **Enhancement.** Enhancement of significantly degraded habitat in combination with restoration or creation. Enhancement alone will result in a loss of habitat acreage and is less effective at replacing the functions lost. Enhancement should be part of a mitigation package that includes replacing the impacted area and meeting appropriate ratio requirements.

5. **Preservation.** Preservation of high-quality, at-risk fish and wildlife habitat as compensation is generally acceptable when done in combination with restoration, creation, or enhancement; provided, that a minimum of 1:1 acreage replacement is provided by reestablishment or creation. Preservation of high-quality, at-risk fish and wildlife habitat may be considered as the sole means of compensation for habitat impacts when the following criteria are met:

a. Habitat impacts will not have a significant adverse impact on habitat for listed fish, or other ESA-listed species;

b. There is no net loss of habitat functions and values within the watershed or basin;

c. The impact area is small (generally less than one-half acre) and/or impacts are occurring to a low-functioning system; and

d. All preservation sites shall include buffer areas adequate to protect the habitat and its functions and values from encroachment and degradation.

E. **Location and Timing of Stream Mitigation.**

1. Mitigation shall be provided on site, unless on-site mitigation is not scientifically feasible due to the physical features of the property. The burden of proof shall be on the applicant to demonstrate that mitigation cannot be provided on site.

2. When mitigation cannot be provided on site, mitigation shall be provided in the immediate vicinity of the permitted activity on property owned or controlled by the applicant, such as an easement, provided such mitigation is beneficial to the fish and wildlife habitat conservation area and associated resources. It is the responsibility of the applicant to obtain title to off-site mitigation areas. Mitigation may be considered on City-owned property, or on similar publicly owned property for which title is not available, through a City mitigation program if programmatic mitigation areas have been identified by the City.

3. In-kind mitigation shall be provided, except when the applicant demonstrates and the City concurs that greater functional and habitat value can be achieved through out-of-kind mitigation.

4. Only when it is determined by the City that subsections (B)(1), (2), and (3) of this section are inappropriate and impractical shall off-site, in-kind mitigation or off-site, out-of-kind mitigation be considered.

5. When stream mitigation is permitted by this chapter on site or off site, the mitigation project shall occur near an adequate water supply (stream, ground water) with a hydrologic connection to the mitigation area to ensure successful development or restoration.

6. Any agreed-upon mitigation proposal shall be completed prior to project construction, unless a phased schedule that assures completion concurrent with project construction has been approved by the City.

7. Restored or created streams, where permitted by this chapter, shall be an equivalent or higher stream value or function than the altered stream.

F. **Performance Standards.** The following mitigation measures shall be reflected in fish and wildlife habitat conservation area mitigation planning:

1. The maintenance and protection of habitat functions and values shall be considered a priority in site planning and design;

2. Buildings and structures shall be located in a manner that preserves and minimizes adverse impacts to important habitat areas. This may include clustering buildings and locating fences outside of habitat areas;

3. Retained habitat shall be integrated into open space and landscaping;

4. Where possible, habitat and vegetated open space shall be consolidated in contiguous blocks;

5. Habitat shall be located contiguous to other habitat areas, open space, or landscaped areas, both on and off site, to contribute to a continuous system or corridor that provides connections to adjacent habitat areas;

6. When planting is required, the following standards shall apply:

a. Native species, indigenous to the region, shall be used in any landscaping of disturbed or undeveloped areas and in any enhancement of habitat or buffers;

b. Plant selection shall be consistent with the existing or projected site conditions, including slope aspect, moisture, and shading;

c. Plants should be commercially available or available from local sources;

d. Plant species high in food and cover value for fish and wildlife shall be used;

e. Mostly perennial species should be planted;

f. Committing significant areas of the site to species that have questionable potential for successful establishment shall be avoided;

g. Plant selection, densities, and placement of plants shall be determined by a qualified professional and shown on the design plans;

h. Stockpiling soil and construction materials should be confined to upland areas and contract specifications should limit stockpiling of earthen materials to durations in accordance with City clearing and grading standards, unless otherwise approved by the City;

i. Planting instructions shall be submitted which describe placement, diversity, and spacing of seeds, tubers, bulbs, rhizomes, sprigs, plugs, and transplanted stock;

j. Controlled release fertilizer shall be applied (if required) at the time of planting and afterward only as plant conditions warrant as determined during the monitoring process;

k. An irrigation system shall be installed, if necessary, for the initial establishment period;

l. The heterogeneity and structural diversity of vegetation shall be emphasized in landscaping; and

m. Significant trees shall be preserved;

7. All construction specifications and methods shall be approved by a qualified professional and the City; and

8. Construction management shall be provided by a qualified professional. Ongoing work on site shall be inspected by the City.

G. **Mitigation Plan.** Mitigation plans shall be submitted as part of the required critical area report consistent with the requirements of SMC 20.240.080, 20.240.082, and 20.240.290 and this section. When revegetation is required as part of the mitigation, then the mitigation plan shall meet the standards of SMC 20.240.350(H), excluding those standards that are wetland specific.

H. **Monitoring Program and Contingency Plan.** A monitoring program shall be implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives are being met. The monitoring program will be established consistent with the guidelines contained in SMC 20.240.082(D).

Subchapter 4.

Wetlands

20.240.310 Wetlands – Purpose.

A. Wetlands help to maintain water quality; store and convey stormwater and floodwater; recharge ground water; provide important fish and wildlife habitat; and serve as areas for recreation, education, scientific study and aesthetic appreciation.

B. The City's overall goal shall be to achieve no net loss of wetlands. This goal shall be implemented through retention of the function, value and acreage of wetlands within the City. Wetland buffers serve to moderate runoff volume and flow rates; reduce sediment, chemical nutrient and toxic pollutants; provide shading to maintain desirable water temperatures; provide habitat for wildlife; protect wetland resources from harmful intrusion; and generally preserve the ecological integrity of the wetland area.

C. The primary purpose of the wetland regulations is to avoid detrimental wetland impacts and achieve a goal of no net loss of wetland function, value and acreage; and where possible enhance and restore wetlands.

20.240.320 Wetlands – Designation and rating.

A. **Designation.** All areas meeting the definition of a wetland and identification criteria as wetlands pursuant to SMC 20.240.322, regardless of any formal identification, are hereby designated critical areas and are subject to the provisions of this chapter.

B. **Rating.** All wetlands shall be rated by a qualified professional according to the current Washington State Department of Ecology wetland rating system, as set forth in the Washington State Wetland Rating System for Western Washington 2014 (Ecology Publication No. 014-06-029, or as revised). Wetland rating categories shall be applied as the wetland exists on the date of adoption of the rating system by the City, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities.

1. **Category I.** Category I wetlands are those that represent unique or rare wetland types, are more sensitive to disturbance than most wetlands, are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime, or provide a high level of functions. The following types of wetlands are Category I:

a. Relatively undisturbed estuarine wetlands larger than one acre;

b. Wetlands of high conservation value that are identified by scientists of the Washington Natural Heritage Program/DNR;

c. Bogs;

d. Mature and old-growth forested wetlands larger than one acre;

e. Wetlands in coastal lagoons; and

f. Wetlands that perform many functions well (scoring 23 points or more based on functions).

2. **Category II.** Category II wetlands are those that are difficult, though not impossible, to replace and provide high levels of some functions. The following types of wetlands are Category II:

a. Estuarine wetlands smaller than one acre, or disturbed estuarine wetlands larger than one acre;

b. Interdunal wetlands larger than one acre or those found in a mosaic of wetlands; and

c. Wetlands with a moderately high level of functions (scoring between 20 and 22 points).

3. **Category III.** Category III wetlands are those with a moderate level of functions, generally have been disturbed in some ways, can often be adequately replaced with a well-planned mitigation project, and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands. The following types of wetlands are Category III:

a. Wetlands with a moderate level of functions (scoring between 16 and 19 points); or

b. Interdunal wetlands between 0.1 and one acre.

4. **Category IV.** Category IV wetlands are those with the lowest levels of functions (scoring below 16 points) and are often heavily disturbed. These are wetlands that should be able to replace, or in some cases to improve. However, experience has shown that replacement

cannot be guaranteed in any specific case. These wetlands may provide some important functions, and also need to be protected.

C. **Illegal Modifications.** Wetland rating categories shall not change due to illegal modifications or alterations. A wetland's category shall be based on the pre-modification/alteration analysis of the wetland.

D. At the time of adoption of the critical area amendments to the City's Master Program, Ordinance 856, there were no identified Category I wetlands identified within the City of Shoreline. If this category of wetland is subsequently identified, any applicable standards may temporarily be used on an interim basis by the Director based on Washington State guidance on protection of the identified type of resource until such time as permanent shoreline regulations can be established.

20.240.322 Wetlands – Mapping and delineation.

A. **Mapping.** The approximate location and extent of wetlands are shown in the wetland data layer maintained in the City of Shoreline geographic information system (GIS). In addition, the following maps and inventories are hereby adopted by reference as amended:

1. City of Shoreline, Basin Characterization Reports and Stream and Wetland Inventory and Assessment, Tetra Tech (May 2004);

2. City of Shoreline stormwater basin plans as completed and updated;

3. Soils maps produced by the U.S. Department of Agriculture, National Resources Conservation Service; and

4. The National Wetlands Inventory, produced by the U.S. Fish and Wildlife Service.

B. **Reference Only.** The inventories and cited resources are to be used as a guide for the City of Shoreline, project applicants, and/or property owners, and may be continuously updated as new wetlands are identified or critical area reports are submitted for known wetlands. These inventories and cited resources are a reference and do not provide a final critical area designation.

C. **Identification and Delineation.** Identification of wetlands and delineation of their boundaries pursuant to this chapter shall be done in accordance with the approved Federal

wetland delineation manual and applicable regional supplements per WAC 173-22-035. The exact location of a wetland's boundary shall be determined through the performance of a field investigation by a qualified professional. Wetland delineations are valid for five years; after such date the Director shall determine whether a revision or additional assessment is necessary.

D. **Pre-assessment.** To facilitate long-range planning using a landscape approach, the Director may identify and pre-assess wetlands using the rating system and establish appropriate wetland buffer widths for such wetlands. The Director will prepare maps of wetlands that have been pre-assessed in this manner.

20.240.324 Wetlands – Development standards.

A. Activities and uses shall be prohibited in wetlands and wetland buffers, except as provided for in this chapter.

B. **Activities Allowed in Wetlands.** The activities listed below are allowed in wetlands pursuant to SMC 20.240.040, Allowed activities, and subject to applicable permit approvals. These activities do not require submission of a critical area report, except where such activities result in a net loss of the shoreline ecological function provided by a wetland or wetland buffer. These activities include:

1. Conservation or preservation of soil, water, vegetation, fish, shellfish, and/or other wildlife that does not entail changing the structure or functions of the existing wetland.

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 will be disturbed.

4. Enhancement of a wetland through the select removal of nonnative invasive plant species. Removal of invasive plant species shall be restricted to hand labor and handheld

equipment unless permits from the appropriate regulatory agencies have been obtained for approved biological or chemical treatments. Not more than 500 square feet of area may be cleared, as calculated cumulatively over one year, on private property without a permit. All removed plant material shall be taken away from the site and disposed of appropriately. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds or the King County Noxious Weed List shall 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.

5. Permitted alteration to a legally constructed structure existing within a wetland or wetland buffer that does not increase the footprint of the development or hardscape or increase the impact to a wetland or wetland buffer, consistent with SMC 20.220.150.

C. **Category I Wetlands.** Development activities and uses that result in alteration of Category I wetlands and their associated buffers shall be prohibited subject to the shoreline variance provisions of SMC 20.220.040.

D. **Category II and III Wetlands.** Development activities and uses that result in alteration of Category II and III wetlands are prohibited, unless the applicant can demonstrate that:

1. The basic project proposed cannot reasonably be accomplished on another site or sites in the general region while still successfully avoiding or resulting in less adverse impact on a wetland;

2. All on-site alternative designs that would avoid or result in less adverse impact on a wetland or its buffer, such as a reduction to the size, scope, configuration, or density of the project are not feasible; and

3. Full compensation for the loss of acreage and functions and values of wetland and buffers due to unavoidable impacts shall be provided in compliance with the mitigation performance standards and requirements of this chapter.

E. **Category IV Wetlands, Except Small Hydrologically Isolated Wetlands.** Development activities and uses that result in unavoidable impacts may be permitted in Category IV wetlands and associated buffers in accordance with an approved critical area(s) report and compensatory mitigation plan, and only if the proposed activity is the only reasonable alternative that will meet

the purpose and intent of the regulations. Full compensation for the loss of acreage and functions and values of wetland and buffers shall be provided in compliance with the mitigation performance standards and requirements of these regulations.

F. **Small, Hydrologically Isolated Category IV Wetlands.** The Director may allow small, hydrologically isolated Category IV wetlands to be exempt from the avoidance sequencing provisions of SMC 20.240.053 and subsection D of this section and allow alteration of such wetlands; provided, that a submitted critical area report and mitigation plan provides evidence that all of the following conditions are met:

1. The wetland is less than 1,000 square feet in area;

2. The wetland is a low quality Category IV wetland with a habitat score of less than three points in the adopted rating system;

3. The wetland does not contain habitat identified as essential for local populations of priority species identified by the Washington Department of Fish and Wildlife or species of local importance which are regulated as fish and wildlife habitat conservation areas in Chapter 20.240, Subchapter 3;

4. The wetland is not associated with riparian areas or buffers;

5. The wetland is not part of a wetland mosaic; and

6. A mitigation plan to replace lost wetland functions and values is developed, approved, and implemented consistent with SMC 20.240.350.

G. **Subdivisions.** The subdivision and/or short subdivision of land in wetlands and associated buffers are subject to the following:

1. Land that is located wholly within a wetland and/or its buffer may not be subdivided; and

2. Land that is located partially within a wetland and/or its buffer may be subdivided; provided, that an accessible and contiguous portion of each new lot is:

   a. Located outside of the wetland and its buffer; and

   b. Meets the minimum lot size requirements of SMC 20.50.020.

20.240.330 Wetlands – Required buffer areas.

A. **Buffer Requirements.** The standard buffer widths in Table 20.240.330(A)(1) have been established in accordance with the best available science. The buffer widths shall be determined based on the category of wetland and the habitat score as assigned by a qualified wetland professional using the Washington State Wetland Rating System for Western Washington.

1. The use of the standard buffer widths requires the implementation of the mitigation measures in Table 20.240.330(A)(2), where applicable to the development type, to minimize the impacts of the adjacent land uses.

2. If an applicant chooses not to apply the appropriate mitigation measures in Table 20.240.330(A)(2), then a 33 percent increase in the width of all buffers is required. For example, a 75-foot buffer with the mitigation measures would be a 100-foot buffer without them.

3. The standard buffer widths assume that the buffer is a relatively intact native plant community in the buffer zone adequate to protect the wetland functions and values at the time of the proposed activity. If the existing buffer is bare ground, sparsely vegetated, or vegetated with nonnative or invasive species that do not perform needed functions, then the applicant shall either develop and implement a wetland buffer restoration or enhancement plan to maintain the standard width to create the appropriate plant community or the buffer shall be widened to ensure that adequate functions of the buffer are provided.

Table 20.240.330(A)(1) Wetland Buffer Requirements

Wetland Category	**Buffer Width According to Habitat Score**			
	Habitat Score of 3 – 4	**Habitat Score of 5**	**Habitat Score of 6 – 7**	**Habitat Score of 8 – 9**
Category I: Based on total score or Forested	75 ft	105 ft	165 ft	225 ft
Category I: Estuarine	150 ft (no change based on habitat scores)			
Category II: Based on total score	75 ft	105 ft	165 ft	225 ft

Table 20.240.330(A)(1) Wetland Buffer Requirements

Wetland Category	Buffer Width According to Habitat Score			
	Habitat Score of 3 – 4	Habitat Score of 5	Habitat Score of 6 – 7	Habitat Score of 8 – 9
Category III (all)	60 ft	105 ft	165 ft	225 ft
Category IV (all)	40 ft (no change based on habitat scores)			

Table 20.240.330(A)(2) Required Measures to Minimize Impacts to Wetlands (Measures are required, where applicable to a specific proposal)

Disturbance	Activities and Uses That Cause Disturbances	Required Measures to Minimize Impacts
Lights	• Parking lots • Warehouses • Manufacturing • Residential	• Direct lights away from wetland.
Noise	• Manufacturing • Residential	• 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 ft heavily vegetated buffer strip immediately adjacent to the outer wetland buffer.
Toxic runoff*	• Parking lots • Roads • Manufacturing • Residential areas	• Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered. • Establish covenants limiting use of pesticides and fertilizers within 150 ft of wetland. • Apply integrated pest management.

Table 20.240.330(A)(2) Required Measures to Minimize Impacts to Wetlands
(Measures are required, where applicable to a specific proposal)

Disturbance	Activities and Uses That Cause Disturbances	Required Measures to Minimize Impacts
	• Application of agricultural pesticides • Landscaping	
Stormwater runoff	• Parking lots • Roads • Manufacturing • Residential areas • Commercial • Landscaping	• 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	• Impermeable surfaces • Lawns • Tilling	• Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns.
Pets and human disturbance	• Residential areas	• 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	• Tilled fields	• Use best management practices to control dust.
Disruption of corridors or connections		• Maintain connections to off-site areas that are undisturbed. • Restore corridors.
* These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site. Additional mitigation measures may be required		

Table 20.240.330(A)(2) Required Measures to Minimize Impacts to Wetlands
(Measures are required, where applicable to a specific proposal)

Disturbance	Activities and Uses That Cause Disturbances	Required Measures to Minimize Impacts
based on recommendation of a qualified professional, third party review, or State agency recommendations.		

4. **Increased Wetland Buffer Area Width.** Buffer widths shall be increased, on a case-by-case basis as determined by the Director, when a larger buffer is necessary to protect the shoreline ecological functions provided by the wetland's functions and values. This determination shall be supported by a critical area report, prepared by a qualified professional at the applicant's expense, showing that it is reasonably related to protection of the functions and values of the wetland and the shoreline. The critical area report shall include, but not be limited to, the following criteria:

a. The wetland is used by a plant or animal species listed by the Federal government or the State as endangered, threatened, candidate, sensitive, monitored, or documented priority species or habitats, or the wetland is essential or outstanding habitat for those species or has unusual nesting or resting sites such as heron rookeries or raptor nesting trees; or

b. The adjacent land has slopes greater than 15 percent and is susceptible to severe erosion, and erosion-control measures will not effectively prevent adverse wetland impacts; or

c. The adjacent land has minimal vegetative cover. In lieu of increasing the buffer width where exiting buffer vegetation is inadequate to protect the wetland functions and values, development and implementation of a wetland buffer restoration/enhancement plan in accordance with SMC 20.240.350 may be substituted.

5. Buffer averaging to improve wetland functions and values 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 is 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; and

d. The buffer at its narrowest point is never less than either three-fourths of the required width or 75 feet for Category I and II, 50 feet for Category III, and 25 feet for Category IV, whichever is greater.

6. Buffer averaging, through a shoreline variance consistent with 20.220.040, 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; and

d. The buffer at its narrowest point is never less than either three-fourths 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.

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. In the case of compensatory mitigation sites, removal of invasive nonnative weeds is required for the duration of the required monitoring period.

E. **Impacts to Buffers.** Requirements for the compensation for impacts to buffers are outlined in SMC 20.240.350.

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 Wetland Buffer Uses.** The following uses may be allowed within a wetland buffer in accordance with the review procedures of this chapter; provided such uses are not prohibited by any other applicable law and such uses are conducted in a manner so as to minimize impacts to the buffer and adjacent wetland:

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:

a. Walkways and trails; provided, that those pathways are limited to minor crossings having no adverse impact on water quality. Pathways should be generally parallel to the perimeter of the wetland, located only in the outer 25 percent of the wetland buffer area, and located to avoid removal of significant trees. Pathways should be limited to pervious surfaces no more than five feet in width for pedestrian use only. Raised boardwalks utilizing nontreated pilings may be acceptable;

b. Wildlife viewing structures.

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 through the select removal of nonnative invasive plant species. Removal of invasive plant species shall be restricted to hand labor and handheld equipment unless permits from the appropriate regulatory agencies have been obtained for approved biological or chemical treatments. Not more than 1,500 square feet of area may be cleared, as calculated cumulatively over one year, on private property without a permit. All removed plant material shall be taken away from the site and disposed of appropriately. Plants that appear on the Washington State Noxious Weed Control Board list of noxious weeds or the King County Noxious Weed List shall 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. **Stormwater Management Facilities.** Stormwater management facilities are limited to stormwater dispersion outfalls, bioswales, and other low-impact facilities consistent with the adopted stormwater manual. Stormwater management facilities are not allowed in buffers of Category I or II wetlands. Facilities may be allowed within the outer 25 percent of the buffer of Category III or IV wetlands only; provided, that:

a. No other location is feasible; and

b. The location of such facilities will not degrade the functions or values of the wetland.

9. **Nonconforming Uses or Structures.** Repair and maintenance of nonconforming uses or structures, where legally established within the buffer, provided such uses or structures do not increase the degree of nonconformity, consistent with SMC 20.220.150.

10. **Development Proposals within Physically Separated and Functionally Isolated Wetland Buffers.** Consistent with the definition of "buffers" (SMC 20.20.012), areas that are functionally isolated and physically separated from wetland due to existing, legally established roadways, paved trails eight feet or more in width, or other legally established structures or paved areas eight feet or more in width that occur between the area in question and the wetland shall be considered physically isolated and functionally separated wetland buffers. Once determined by the Director, based on a submitted critical area report to be a physically separated and functionally isolated wetland buffer, development proposals shall be allowed in these areas.

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 Director prior to the commencement of permitted activities during the preconstruction meeting required under SMC 20.50.330(E). This temporary marking and fencing shall be maintained throughout construction and shall not be removed until permanent signs, if required, are in place.

2. **Permanent Signs.** As a condition of any permit or authorization issued pursuant to this chapter, the Director may require the applicant to install permanent signs along the boundary of a wetland or buffer, when recommended in a critical area report or otherwise required by the provisions of this chapter.

a. Permanent signs shall be made of an enamel-coated metal face and attached to a metal post or another nontreated material of equal durability. Signs shall be posted at an interval of one per lot or every 50 feet, whichever is less, and shall be maintained by the property owner in perpetuity. The signs shall be worded consistent with the text specified in SMC 20.240.110 or with alternative language approved by the Director.

b. The provisions of subsection (H)(2)(a) of this section may be modified as necessary to assure protection of sensitive features.

3. **Fencing.** 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. Permanent fencing shall be required at the outer edge of the critical area buffer under the following circumstances; provided, that the Director may waive this requirement:

a. As part of any development proposal for subdivisions, short plats, multifamily, mixed use, and commercial development where the Director determines that such fencing is necessary to protect the functions of the critical area; provided, that breaks in permanent fencing may be allowed for access to permitted buffer uses (subsection G of this section);

b. As part of development proposals for parks where the adjacent proposed use is active recreation and the Director determines that such fencing is necessary to protect the functions of the critical area;

c. When buffer averaging is part of a development proposal; or

d. At the Director's discretion to protect the values and functions of a critical area as demonstrated in a critical area report. If found to be necessary, the Director shall condition any permit or authorization issued pursuant to this chapter to require the applicant to install a permanent fence at the edge of the habitat conservation area or buffer, when fencing will prevent future impacts to the habitat conservation area;

e. The applicant shall be required to install a permanent fence around the wetland buffer when domestic grazing animals, only as allowed under SMC 20.40.240, are present or may be introduced on site.

20.240.340 Wetlands – Critical area report requirements.

A. **Report Required.** If the Director determines that the site of a proposed development includes, is likely to include, or is adjacent to, a wetland, a wetland critical area report shall be required. Critical area report requirements for wetland areas are generally met through submission to the Director of one or more wetland critical area reports. In addition to the general

critical area report requirements of SMC 20.240.080, critical area reports for wetlands shall meet the requirements of this section. Critical area reports for two or more types of critical areas shall meet the report requirements for each relevant type of critical area.

B. **Preparation by a Qualified Professional.** Critical area reports for wetlands shall be prepared and signed by a qualified professional who is a certified wetland scientist or a noncertified wetland scientist with the minimum required experience, per SMC 20.20.042, in the field of wetland science and with experience preparing wetland delineation, impact assessments, and mitigation plans.

C. **Third Party Review Required.** Critical areas studies and reports on wetland areas shall be subject to third party review consistent with SMC 20.240.080(C) and in any of the additional following circumstances:

1. Compensatory mitigation is required for impacts to Category I, II, or III wetlands and or buffers; or

2. Compensatory mitigation is required for impacts to Category IV wetlands.

D. **Minimum Report Contents for Wetlands.** The written critical area report(s) and accompanying plan sheet(s) shall contain the following information, at a minimum:

1. The minimum report contents required per SMC 20.240.080(E);

2. Documentation of any fieldwork performed on the site, including field data sheets for delineations, rating system forms, baseline hydrologic data, site photos, etc.;

3. A description of the methodologies used to conduct the wetland delineations, ratings, or impact analyses including references;

4. **Site Plans.** A copy of the site plan sheet(s) for the project shall be included with the written report and shall include, at a minimum:

a. Maps (to scale) depicting delineated and surveyed wetland(s) and required buffers on site, including buffers for off-site critical areas that extend onto the project site; the development proposal; other critical areas; clearing and grading limits; areas of proposed impacts to wetlands and/or buffers (include square footage estimates); and

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;

5. For each wetland identified on site and off site within 300 feet of the project site provide: the wetland rating, including a description of and score for each function, per wetland ratings (SMC 20.240.320(B)); required buffers (SMC 20.240.330); 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 inlets/outlets 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;

6. 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;

7. An assessment of the probable cumulative impacts to the wetlands and buffers resulting from the proposed development;

8. A description of reasonable efforts made to apply mitigation sequencing pursuant to SMC 20.240.053(A) to avoid, minimize, and mitigate impacts to critical areas and 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;

9. A conservation strategy for habitat and native vegetation that addresses methods to protect and enhance on-site habitat and wetland functions; and

10. An evaluation of the functions of the wetland and adjacent buffer. Include reference for the method used and data sheets.

E. **Additional Information.** When appropriate due to the proposed impacts or the project area conditions, the Director may also require the critical area report to include:

1. Where impacts are proposed, mitigation plans consistent with the requirements of SMC 20.240.082 and the wetland mitigation performance standards and requirements of SMC 20.240.350;

2. A request for consultation with the Washington State Department of Fish and Wildlife (DFW), Washington State Department of Ecology (Ecology), local Native American Indian tribes, and/or other appropriate agency;

3. Copies of the joint aquatic resource permit application (JARPA) and related approvals, such as a hydraulic project approval (HPA) from the DFW, when applicable to the project; and

4. Detailed surface and subsurface hydrologic features both on and adjacent to the site.

20.240.350 Wetlands – Compensatory mitigation performance standards and requirements.

A. **Requirements for Compensatory Mitigation.**

1. Compensatory mitigation for alterations to wetlands shall be used only for impacts that cannot be avoided or minimized and shall achieve equivalent or greater shoreline ecological and biologic functions. Compensatory mitigation plans shall be consistent with Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1), (Ecology Publication No. 06-06-011b, March 2006, or as revised).

2. Mitigation ratios shall be consistent with subsection E of this section.

3. Mitigation requirements may also be determined using the credit/debit tool described in "Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Operational Draft" (Ecology Publication No. 10-06-011, February 2011, or as revised) consistent with subsection E of this section.

B. **Compensating for Lost or Impacted Functions.** Compensatory mitigation shall address the shoreline ecological functions and the wetland or wetland buffer functions and values affected by the proposed project, with an intention to achieve functional equivalency or

improvement of functions and values. The goal shall be for the compensatory mitigation to provide similar shoreline ecological functions and wetland functions and values as those lost, except when either:

1. The lost wetland provides minimal functions and values, and the proposed compensatory mitigation action(s) will provide equal or greater functions and values or will provide functions and values shown to be limiting within a watershed through a formal Washington State watershed assessment plan or protocol; or

2. Out-of-kind replacement of wetland type or functions and values will best meet watershed goals formally identified by the City, such as replacement of historically diminished wetland types.

C. **Preference of Mitigation Actions.** Methods to achieve compensation for wetland functions and values shall be approached in the following order of preference:

1. **Restoration.** Restoration of wetlands.

2. **Creation.** Creation (establishment) of wetlands on disturbed upland sites, such as those with vegetative cover consisting primarily of nonnative species. This should be attempted only when there is an adequate source of water and it can be shown that the surface and subsurface hydrologic regime is conducive to the wetland community that is anticipated in the design.

3. **Enhancement.** Enhancement of significantly degraded wetlands in combination with restoration or creation. Enhancement alone will result in a loss of wetland acreage and is less effective at replacing the functions and values lost. Enhancement should be part of a mitigation package that includes replacing the impacted area and meeting appropriate ratio requirements.

4. **Preservation.** Preservation of high-quality, at-risk wetlands as compensation is generally acceptable when done in combination with restoration, creation, or enhancement; provided, that a minimum of 1:1 acreage replacement is provided by reestablishment or creation. Preservation of high-quality, at-risk wetlands and habitat may be considered as the sole means of compensation for wetland impacts when the following criteria are met:

a. Wetland impacts will not have a significant adverse impact on habitat for listed fish, or other ESA-listed species;

b. There is no net loss of habitat functions within the watershed or basin;

c. Mitigation ratios for preservation as the sole means of mitigation shall generally start at 20:1. Specific ratios should depend upon the significance of the preservation project and the quality of the wetland resources lost;

d. The impact area is small (generally less than one-half acre) and/or impacts are occurring to a low-functioning system (Category III or IV wetland); and

e. All preservation sites shall include buffer areas adequate to protect the habitat and its functions from encroachment and degradation.

D. **Type and Location of Compensatory Mitigation.** Unless it is demonstrated that a higher level of ecological functioning would result from an alternative approach, compensatory mitigation for ecological functions shall be either in kind and on site, or in kind and within the same stream reach, sub-basin, or drift cell (if estuarine wetlands are impacted). Compensatory mitigation actions shall be conducted within the same sub-drainage basin and on the site of the alteration, except when all of the following apply:

1. There are no reasonable opportunities on site or within the sub-drainage basin (e.g., on-site options would require elimination of high-functioning upland habitat), or opportunities on site or within the sub-drainage basin do not have a high likelihood of success based on a determination of the capacity of the site to compensate for the impacts. Considerations should include:

a. Anticipated replacement ratios for wetland mitigation;

b. Buffer conditions and proposed widths;

c. Available water to maintain anticipated hydrogeomorphic classes of wetlands when restored; and

d. Proposed flood storage capacity, and potential to mitigate riparian fish and wildlife impacts (such as connectivity);

2. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the impacted wetland;

3. Off-site locations shall be in the same sub-drainage basin, unless watershed goals for water quality, flood storage or conveyance, habitat, or other wetland functions have been established by the City and strongly justify location of mitigation at another site; and

4. The design for the compensatory mitigation project needs to be appropriate for its location (i.e., position in the landscape). Therefore, compensatory mitigation should not result in the creation, restoration, or enhancement of an atypical wetland. An atypical wetland refers to a compensation wetland (e.g., created or enhanced) that does not match the type of existing wetland that would be found in the geomorphic setting of the site (i.e., the water source(s) and hydroperiod proposed for the mitigation site are not typical for the geomorphic setting). Likewise, it should not provide exaggerated morphology or require a berm or other engineered structures to hold back water. For example, excavating a permanently inundated pond in an existing, seasonally saturated or inundated wetland is one example of an enhancement project that could result in an atypical wetland. Another example would be excavating depressions in an existing wetland on a slope, which would require the construction of berms to hold the water.

E. **Wetland Mitigation Ratios[1].**

Table 20.240.350(G). Wetland mitigation ratios apply when impacts to wetlands cannot be avoided or are otherwise allowed consistent with the provisions of this chapter.

Category and Type of Wetland[2]	Creation or Reestablishment (Area – in square feet)	Rehabilitation (Area – in square feet)	Enhancement (Area – in square feet)	Preservation (Area – in square feet)
Category I: Based on total score for functions	4:1	8:1	16:1	20:1
Category I: Mature forested	6:1	12:1	24:1	24:1

Table 20.240.350(G). Wetland mitigation ratios apply when impacts to wetlands cannot be avoided or are otherwise allowed consistent with the provisions of this chapter.

Category and Type of Wetland[2]	Creation or Reestablishment (Area – in square feet)	Rehabilitation (Area – in square feet)	Enhancement (Area – in square feet)	Preservation (Area – in square feet)
Category I: Estuarine	Case-by-case	6:1	Case-by-case	Case-by-case
Category II: Based on total score for functions	3:1	6:1	12:1	20:1
Category III (all)	2:1	4:1	8:1	15:1
Category IV (all)	1.5:1	3:1	6:1	10:1

[1] Ratios for rehabilitation and enhancement may be reduced when combined with 1:1 replacement through creation or reestablishment. See Table 1a or 1b, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance – Version 1 (Ecology Publication No. 06-06-011a, March 2006, or as revised).

[2] Category and rating of wetland as determined consistent with SMC 20.240.320(B).

F. **Buffer Mitigation Ratios.** Impacts to buffers shall be mitigated at a 1:1 ratio. Compensatory buffer mitigation shall replace those buffer functions lost from development.

G. **Mitigation Performance Standards.** The performance standards in this section shall be incorporated into mitigation plans submitted to the City for impacts to wetlands. The following performance standards shall apply to any mitigations proposed within Category I, II, III and IV wetlands and their buffers. Modifications to these performance standards consistent with the guidance in Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication No. 06-06-011b, March 2006, or as revised) may be considered for approval by the Director as alternatives to the following standards:

1. Plants indigenous to the region (not introduced or foreign species) shall be used.

2. Plant selection shall be consistent with the existing or projected hydrologic regime, including base water levels and stormwater event fluctuations.

3. Plants should be commercially available or available from local sources.

4. Plant species high in food and cover value for fish and wildlife shall be used.

5. Mostly perennial species should be planted.

6. Committing significant areas of the site to species that have questionable potential for successful establishment shall be avoided.

7. Plant selection shall be approved by a qualified professional.

8. The following standards shall apply to wetland design and construction:

    a. Water depth shall not exceed six and one-half feet (two meters).

    b. The grade or slope that water flows through the wetland shall not exceed six percent.

    c. Slopes within the wetland basin and the buffer zone shall not be steeper than 3:1 (horizontal to vertical).

    d. The wetland (excluding the buffer area) should not contain more than 60 percent open water as measured at the seasonal high water mark.

9. Substrate should consist of a minimum of one foot, in depth, of clean (uncontaminated with chemicals or solid/hazardous wastes) inorganic/organic materials.

10. Planting densities and placement of plants should be determined by a qualified professional and shown on the design plans.

11. The planting plan shall be approved by the City.

12. Stockpiling soil and construction materials should be confined to upland areas and contract specifications should limit stockpiling of earthen materials to durations in

accordance with City clearing and grading standards, unless otherwise approved by the City.

13. Planting instructions shall be submitted which describe placement, diversity, and spacing of seeds, tubers, bulbs, rhizomes, sprigs, plugs, and transplanted stock.

14. Controlled release fertilizer shall be applied (if required) at the time of planting and afterward only as plant conditions warrant as determined during the monitoring process.

15. An irrigation system shall be installed, if necessary, for the initial establishment period.

16. All construction specifications and methods shall be approved by a qualified professional and the City.

17. Construction management shall be provided by a qualified professional. Ongoing work on site shall be inspected by the City.

H. **Compensatory Mitigation Plan.** When a project involves wetland and/or buffer impacts, a compensatory mitigation plan shall be included as part of the required critical area report. Compensatory wetland mitigation plans shall meet the minimum requirements SMC 20.240.082 and demonstrate compliance with SMC 20.240.053. Full guidance can be found in Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication No. 06-06-011b, March 2006, or as revised). The mitigation plan shall meet the following additional standards:

1. Description of the existing wetland and buffer areas proposed to be impacted. Include acreage (or square footage), water regime, vegetation, soils, landscape position, surrounding land uses, and functions. Also describe impacts in terms of acreage by Cowardin classification, hydrogeomorphic classification, and wetland rating, based on wetland ratings (SMC 20.240.320(B));

2. 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);

3. 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;

4. A description of the proposed mitigation construction activities, construction/installation notes, and timing of activities;

5. A discussion of ongoing management practices that will protect wetlands after the project site has been developed, including proposed monitoring and maintenance programs (for remaining wetlands and compensatory mitigation wetlands);

6. Proof of establishment of notice on title for the wetlands and buffers on the project site, including the compensatory mitigation areas; and

7. The scaled plan sheets for the compensatory mitigation shall contain, at a minimum:

a. 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;

b. 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;

c. Surface and subsurface hydrologic conditions, including an analysis of existing and proposed hydrologic regimes for enhanced, created, or restored compensatory mitigation areas. Also, illustrations of how data for existing hydrologic conditions were used to determine the estimates of future hydrologic conditions;

d. 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;

e. 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;

f. A plant schedule 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, typical plant installation details and notes, total number of each species by community type, timing of installation; and

g. Performance standards (measurable standards reflective of years post-installation) for upland and wetland communities, monitoring plan, contingency plan, and maintenance schedule, and actions. Standards for success shall be established based on the performance standards identified and the functions and values being mitigated based on the guidance in Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication No. 06-06-011b, March 2006, or as revised).

Subchapter 5.

Flood Hazard Areas

20.240.360 Flood hazard – Description and purpose.

A. A flood hazard area consists of the special flood hazard areas and protected areas as defined in Chapter 13.12 SMC Floodplain Management, which comprise the regulatory floodplain.

B. It is the purpose of these regulations to ensure that the City of Shoreline meets the requirements of the National Flood Insurance Program and maintains the City as an eligible community for Federal flood insurance benefits.

20.240.370 Flood hazard – Designation and classification.

Flood hazard areas shall be designated and classified pursuant to the requirements of the floodplain management regulations, Chapter 13.12 SMC, which include, at a minimum, all lands identified on the 100-year floodplain designations of the current Federal Emergency

Management Agency (FEMA) flood insurance rate map (FIRM) for King County as identified in SMC 13.12.300.

20.240.380 Flood hazard – Development limitations.

All development within designated flood hazard areas shall comply with Chapter 13.12 SMC, Floodplain Management, as now or hereafter amended, and is not further subject to the regulations of this chapter.

Subchapter 6.

Aquifer Recharge Areas

20.240.420 Aquifer recharge – Description and purpose.

A. Aquifer recharge areas consist of areas that provide a source of potable water and contribute to stream discharge during periods of low flow, as defined in Chapter 20.20 SMC.

B. The primary purpose of aquifer recharge area regulations is to protect aquifer recharge areas by providing for regulation of land use activities that pose a risk of potential aquifer contamination and to minimize impacts through the application of strict performance standards.

20.240.430 Aquifer recharge – Designation and classification.

A. Aquifer recharge areas shall be designated and classified based on the soil and ground water conditions and risks to surface water during periods of low hydrology. Classification depends on the combined effects of hydrogeological susceptibility to contamination and contaminant loading potential, and includes upland areas underlain by soils consisting largely of silt, clay or glacial till, upland areas underlain by soils consisting largely of sand and gravel, and wellhead protection areas and areas underlain by soils consisting largely of sand and gravel in which there is a predominantly downward or lateral component to ground water flow.

B. At the time of adoption of the amendments to the critical areas of the City's SMP, Ordinance 856, there were no identified critical aquifer recharge areas within the City of Shoreline.

20.80.440 Aquifer recharge – Alteration.

Subject to the required permits, the following land uses and activities shall require implementation of best management practices (BMPs) as established by the Department of Ecology:

A. Land uses and activities that involve the use, storage, transport or disposal of significant quantities of chemicals, substances or materials that are toxic, dangerous or hazardous, as those terms are defined by State and Federal regulations.

B. On-site community sewage disposal systems.

C. Underground storage of chemicals.

D. Petroleum pipelines.

E. Solid waste landfills.

F. Stormwater management, including infiltration, and ground water recharge.

20.80.450 Aquifer recharge – Performance standards and requirements.

Any uses or activities that seek to be located in an aquifer recharge area, as defined within this subchapter, that involve the use, storage, transport or disposal of significant quantities of chemicals, substances, or materials that are toxic, dangerous or hazardous, as those terms are defined by State and Federal regulations, shall comply with the following additional standards:

A. Underground storage of chemicals, substances or materials that are toxic, hazardous or dangerous is discouraged.

B. Any chemicals, substances or materials that are toxic, hazardous or dangerous shall be segregated and stored in receptacles or containers that meet State and Federal standards.

C. Storage containers shall be located in a designated, secured area that is paved and able to contain leaks and spills, and shall be surrounded by a containment dike.

D. Secondary containment devices shall be constructed around storage areas to retard the spread of any spills and a monitoring system should be implemented.

E. A written operations plan shall be developed, including procedures for loading/unloading liquids and for training of employees in proper materials handling.

F. An emergency response/spill clean-up plan shall be prepared and employees properly trained to react to accidental spills.

G. Any aboveground storage tanks shall be located within a diked containment area on an impervious surface. The tanks shall include overfill protection systems and positive controls on outlets to prevent uncontrolled discharges.

H. Development should be clustered and impervious surfaces limited where possible.

I. No waste liquids or chemicals of any kind shall be discharged to storm sewers.

J. All development shall implement best management practices (BMPs) for water quality, as approved by the City, including the standards contained within the adopted stormwater manual, such as biofiltration swales and use of oil-water separators, and BMPs appropriate to the particular use proposed.