

Appendix D – Yarrow Point Critical Areas Regulations in Shoreline Jurisdiction

Contents

1. **General Regulations, Page D1**
2. **Wetlands, Page D10**
3. **Geologically Hazardous Areas, Page D17**
4. **Fish & Wildlife Habitat Conservation Areas, Page D25**

1. General Regulations

- A. The Shoreline Master Program, and not this appendix to the Shoreline Master Program, exclusively governs uses and modifications in Lake Washington and establishes a Lake Washington setback with corresponding regulations. These Appendix D regulations apply to all other critical areas within shoreline jurisdiction, including those that may be found within a Lake Washington setback. Note that the Town of Yarrow Point does not contain any streams or critical aquifer recharge areas within its shoreline jurisdiction. All requirements traditionally found in critical areas regulations pertaining to streams or critical aquifer recharge areas will not be found in this appendix.
- B. Purpose
 1. The purpose of these critical areas regulations is to designate and classify ecologically sensitive and hazardous areas within shoreline jurisdiction and to protect these areas and their functions and values, while also allowing for reasonable use of private property.
 2. The Town finds that critical areas provide a variety of valuable and beneficial biological and physical functions that include, but are not limited to, water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation, ground water recharge and discharge, erosion control, protection from hazards, historical and archaeological and aesthetic value protection, and recreation.
 3. Goals. By limiting development and alteration of critical areas, these regulations seek to:
 - a. Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides and steep slope failures, erosion, seismic events, or flooding;
 - b. Protect unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, and fish and wildlife and their habitats.

person, company, agency, or applicant shall alter a critical area or buffer within shoreline jurisdiction except as consistent with the purposes and requirements of this SMP.

H. Critical area reports – Requirements

1. Prepared by qualified professional. If required by any part of these critical areas regulations, the applicant shall submit a critical area report prepared by a qualified professional as defined herein. Critical area reports for two or more types of critical areas must meet the report requirements for each relevant type of critical area.
2. Incorporating science. The critical area report shall use the most current, accurate, and complete scientific and technical information available in the analysis of critical area data and field reconnaissance and reference the source of science used. The critical area report shall evaluate the proposal and all probable impacts to critical areas in accordance with the provisions of this Title.
3. Minimum report contents. At a minimum, the report shall contain the following:
 - a. The name and contact information of the applicant, a description of the proposal, and identification of the permit requested.
 - b. A written assessment and accompanying maps of the critical areas and buffers of the project area, including the following information at a minimum:
 - i. Identification and characterization of existing critical areas and required buffers
 - ii. Description of the development proposal with dimensions, including limits of areas to be cleared;
 - iii. A description of the proposed stormwater management plan for the development and consideration of impacts to drainage alterations.
 - iv. An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development.
 - v. An analysis of site development alternatives.
 - vi. A description of reasonable efforts made to apply mitigation sequencing to avoid, minimize, and mitigate impacts to critical areas.
 - vii. Plans for adequate mitigation, as needed, to offset any impacts, in accordance with Mitigation Plan Requirements, including, but not limited to:

- viii. The impacts of any proposed development within or adjacent to a critical area or buffer on the critical area; and
 - ix. The impacts of any proposed alteration of a critical area or buffer on the development proposal, other properties and the environment.
 - x. A discussion of the performance standards applicable to the critical area and proposed activity.
- c. The dates, names, and qualifications of the persons preparing the report and documentation of any fieldwork performed on the site.
 - d. A statement specifying the accuracy of the report, and all assumptions made and relied upon.
 - e. Financial guarantees to ensure compliance.
 - f. Any additional information required for the critical area as specified in the corresponding chapter.
 - g. Unless otherwise provided, a critical area report may be supplemented by or composed, in whole or in part, 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 Shoreline Administrator.
- I. Critical area report – modifications to requirements
- 1. Limitations to study area. The Shoreline Administrator may limit the required geographic area of the critical area report as appropriate if:
 - a. The applicant, with assistance from the Town, 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 Shoreline Administrator prior to or during preparation of the critical area report to obtain Town 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.
 - 3. Additional information may be required. The Shoreline Administrator may require additional information to be included in the critical area report when determined to be necessary to the review of the proposed activity. 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.
- c. Information specific to the type, location, and nature of the critical area.

J. Mitigation requirements

1. The applicant shall avoid all impacts that degrade the functions and values of a critical area or areas. Unless otherwise provided in this Title, if alteration to 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 in accordance with an approved critical area report and SEPA documents.
2. Mitigation shall be in-kind and on-site, when possible, and sufficient to maintain the functions and values of the critical area, and to prevent risk from a hazard posed by a critical area. Off-site mitigation shall be allowed in an agency-approved wetland bank within the same watershed or agency-approved in-lieu fee sites within the same watershed.
3. Mitigation shall not be implemented until after Town and agency, if applicable, approval of a critical area report that includes a mitigation plan, and mitigation shall be in accordance with the provisions of the approved critical area report.

K. Mitigation sequencing. Applicants shall demonstrate that all reasonable efforts have been examined with the intent to avoid and minimize impacts to critical areas. When an alteration to a critical area is proposed, such alteration shall be avoided, minimized, or compensated for in the following order of preference:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
3. Rectifying the impact to wetlands and habitat conservation areas by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;
4. Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;
5. Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;

6. Compensating for the impact to wetlands and habitat conservation areas by replacing, enhancing, or providing substitute resources; and
7. Monitoring the hazard or other required mitigation and taking remedial action when necessary.

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

L. Mitigation plan requirements. When mitigation is required, the applicant shall submit for approval by the Town a mitigation plan as part of the critical area report. The mitigation plan shall include the following:

1. Environmental goals and objectives. The mitigation plan shall include a written report identifying environmental goals and objectives of the compensation proposed, including:
2. A description of the anticipated impacts to the critical areas and the mitigating actions proposed and the purposes of the compensation measures, including the site selection criteria; identification of compensation goals; identification of resource functions; and dates for beginning and completion of site compensation construction activities. The goals and objectives shall be related to the functions and values of the impacted critical area.
3. A review of the most current, accurate, and complete scientific and technical information available 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.
4. An analysis of the likelihood of success of the compensation project.
5. 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 and whether or not the requirements of these critical areas regulations have been met.
6. Mitigation shall achieve equivalent or greater biological functions. Mitigation of alterations to critical areas shall achieve equivalent or greater biological functions. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis.
7. Detailed construction plans. The mitigation plan shall include written specifications and descriptions of the mitigation proposed, such as:
 8. The proposed construction sequence, timing, and duration.
 9. Grading and excavation details.
 10. Erosion and sediment control features.

11. A planting plan specifying plant species, quantities, locations, size, spacing, and density.
12. Measures to protect and maintain plants until established.
13. 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.
14. Monitoring program. The mitigation plan shall include a program for monitoring construction of the compensation project, and for assessing a completed project. A protocol shall be included outlining the schedule for site monitoring, and how the monitoring data will be evaluated to determine if the performance standards are being met. A monitoring report shall be submitted as needed, but not necessarily annually, to document milestones, successes, problems, and contingency actions of the compensation project. The compensation project shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five (5) years.
15. Contingency plan. The mitigation plan shall 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.

M. Unauthorized critical area alterations and enforcement

1. When a critical area or its buffer has been altered in violation of the provisions of this SMP, all ongoing development work shall stop and the critical area shall be restored. The Town shall have the authority to issue a stop work order to cease all ongoing development work, and order restoration, rehabilitation or replacement measures at the owner's or other responsible party's expense to compensate for violation of provisions of this Title. If the violator fails to perform or pay as required in this Section, and the violator is not the owner or responsible party, the Shoreline Administrator may seek compliance or payment from the owner or responsible party.
2. Restoration plan required. All development work shall remain stopped until a restoration plan is prepared by the Applicant and approved by the Town. Such a plan shall be prepared by a qualified professional and shall describe how the actions proposed meet the minimum requirements described in Subsection 3 below. The Shoreline Administrator shall, at the violator's expense, seek expert advice in determining the adequacy of the plan. Inadequate plans shall be returned to the applicant or violator for revision and resubmittal.
3. Minimum performance standards for restoration.
 - a. For alterations to wetlands and habitat conservation 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

functional and habitat values can be obtained, these standards may be modified:

- i. The pre-disturbance structural and functional values shall be restored, including water quality and habitat functions;
 - ii. The historic soil types and configuration shall be replicated;
 - iii. The critical area and buffers shall be replanted with native vegetation that replicates the vegetation historically found on the site in species types, sizes, and densities; and
 - iv. The historic functions and values should be replicated at the location of the alteration.
 - b. For alterations to geological hazards, 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:
 - i. The hazard shall be reduced to a level equal to, or less than, the pre-development hazard;
 - ii. Any risk of personal injury resulting from the alteration shall be eliminated or minimized; and
 - iii. The hazard area and buffers shall be replanted with native vegetation sufficient to minimize the hazard.
 4. Site investigations. The Shoreline Administrator is authorized to make site inspections and take such actions as are necessary to enforce these critical areas regulations. The Shoreline Administrator shall present proper credentials and make a reasonable effort to contact any property owner before entering onto private property.
 5. Penalties. Any person, party, firm, corporation, or other legal entity convicted of violating any of the provisions of these critical areas regulations shall be guilty of a misdemeanor. Each day or portion of a day during which a violation of these critical areas regulations is committed or continued shall constitute a separate offense. Any development carried out contrary to the provisions of these critical areas regulations shall constitute a public nuisance and may be enjoined as provided by the statutes of the state of Washington. The Town may levy civil penalties against any person, party, firm, corporation, or other legal entity for violation of any of the provisions of these critical areas regulations.
- N. Subdivisions. The subdivision and short subdivision of land in a critical area and associated buffers is subject to the following:

1. Land that is located wholly within a critical area or its buffer may not be subdivided.
 2. Land that is located partially within a critical area or its buffer may be subdivided provided that an accessible and contiguous portion of each new lot is:
 - a. Located outside of the critical area and its buffer; and
 - b. Meets the minimum lot size requirements of the Town's zoning regulations.
- O. Critical area markers and signs. The boundary at the outer edge of the critical area or buffer shall be identified with temporary signs prior to any site alteration
- P. Notice on title
1. In order to inform subsequent purchasers of real property of the existence of critical areas, the owner of any property containing a critical area or buffer on which a development proposal is submitted shall file a notice with the county records and elections division according to the direction of the Town. The notice shall state the presence of the critical area or buffer on the property, of the application of these critical areas regulations to the property, and the fact that limitations on actions in or affecting the critical area or buffer may exist. The notice shall run with the land.
 2. This notice on title shall not be required for a development proposal by a public agency or public or private utility, within a right-of-way, or on the site of a permanent public facility.
 3. The applicant shall submit proof that the notice has been filed for public record before the Town approves any development proposal for the property or, in the case of subdivisions, short subdivisions, planned unit developments, and binding site plans, at or before recording.
- Q. Critical area inspections. Reasonable access to the site shall be provided to the Town, state, and federal agency review staff for the purpose of inspections during any proposal review, restoration, emergency action, or monitoring period.

2. Wetlands

- A. Designating wetlands. Identification of wetlands and delineation of their boundaries shall be done in accordance with the approved federal wetland delineation manual and applicable regional supplements. Any areas within the Town meeting the wetland designation criteria in that procedure are hereby designated critical areas and are subject to the provisions of this Chapter.
- B. Wetland ratings. Wetlands shall be rated according to the Department of Ecology wetland rating system found in the Washington State Wetland Rating System documents

(Western Washington, Ecology Publication #93-74) or as revised by Ecology. These documents contain the definitions and methods for determining if the criteria below are met.

1. Wetland rating categories

a. Category I. Category I wetlands are:

- i. Wetlands that are identified by scientists of the Washington Natural Heritage Program/DNR as high-quality wetlands.
- ii. Bogs.
- iii. Mature and old-growth forested wetlands larger than 1 acre.
- iv. Wetlands that perform many functions well (scoring 70 points or more).

These wetlands: (1) represent unique or rare wetlands; (2) are more sensitive to disturbance than most wetlands; (3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; (4) provide a high level of functions.

b. Category II. Category II wetlands are Wetlands with a moderately high level of functions (scoring between 51 and 69 points).

c. Category III. Category III wetlands are wetlands with a moderate level of functions (scoring between 30 and 50 points). Wetlands scoring between 30 and 50 points generally have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.

d. Category IV. Category IV wetlands have the lowest levels of functions (scoring fewer than 30 points) and are often heavily disturbed. These are wetlands that are capable of being replaced, or in some cases improved. These wetlands may provide some important functions, and should be protected to some degree.

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

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

3. Educational and scientific research activities.
- D. Critical area report – Additional requirements for wetlands. In addition to the general critical area report requirements of Section 1.G and 1.H, critical area reports for wetlands must include the following at a minimum:
1. Wetland delineation and required buffers;
 2. Existing wetland acreage;
 3. Wetland category; vegetative, faunal, and hydrologic characteristics;
 4. Soil and substrate conditions;
 5. Topographic elevations, at two-foot contours;
 6. Existing and proposed adjacent site conditions; and
 7. Property ownership.
- E. Performance standards – General requirements
1. Alterations may only be permitted in a wetland or wetland buffer if the applicant can show that the proposed activity will not result in net loss of critical areas or shoreline ecological functions and is necessary to accommodate preferred uses when consistent with the Shoreline Management Act and this Shoreline Master Program.
 2. Alterations and uses shall be prohibited from wetlands and wetland buffers, except as provided for in these critical areas regulations.
 3. Category I wetlands. Alterations and uses shall be prohibited from Category I wetlands, except for low-impact public access and recreation facilities, such as raised boardwalks or platforms for hiking or bird/wildlife watching, that provide opportunities for significant numbers of people to enjoy the natural environment. Such facilities shall be designed to avoid or minimize significant vegetation removal. Projects shall be designed to result in no net loss of ecological functions, and all adverse impacts shall be mitigated.
 4. Category II and III wetlands. The following activities are allowed in Category II and III wetlands and their associated buffers:
 - a. Water-dependent alterations as provided for under the Town's Shoreline Master Program may be allowed where there are no feasible alternatives

that would have a less adverse impact on the wetland, its buffer and other critical areas.

- b. Low-impact public access and recreation facilities, such as raised boardwalks, may be allowed if they provide opportunities for substantial numbers of the general public to enjoy the natural environment. Such facilities shall be designed to avoid or minimize significant vegetation removal. Projects shall be designed to result in no net loss of ecological functions, and all adverse impacts shall be mitigated. Public access and recreational facilities shall incorporate interpretive signs or other mechanism to educate the public about wetland functions.
 - c. Where alterations are proposed that are neither water-dependent nor related to public access and recreation, it shall be presumed that alternative locations are available, and activities and uses shall be prohibited, unless the applicant demonstrates that:
 - i. The basic project purpose cannot reasonably be accomplished and successfully avoid, or result in less adverse impact on, a wetland on another site or sites in the general region; and
 - ii. All alternative designs of the project as proposed, that would avoid or result in less of an adverse impact on a wetland or its buffer, such as a reduction in the size, scope, configuration, or density of the project, are not feasible.
5. Category IV wetlands. Alterations and uses that result in unavoidable and necessary impacts may be permitted in Category IV wetlands and associated buffers in accordance with an approved critical area report and mitigation plan, and only if the proposed activity is the only reasonable alternative that will accomplish the applicant's objectives.

F. Wetland buffers

- 1. Buffer Requirements. The standard buffer widths have been established in accordance with the most current, accurate, and complete scientific and technical information available. They are based on the category of wetland and the habitat score as determined by a qualified wetland professional using the Washington State Wetland Rating System for Western Washington. Additional buffer widths are added to the standard buffer widths. The buffers widths shall be as follows:

Wetland Category	Standard Buffer Width	Additional buffer width if wetland scores		
		21-25 habitat points	26-29 habitat points	30-36 habitat points
Category I - based on total score	75 feet	Add 30 feet	Add 90 feet	Add 150 feet
Category I - Natural	190 feet	NA	NA	Add 35 feet

Wetland Category	Standard Buffer Width	Additional buffer width if wetland scores		
		21-25 habitat points	26-29 habitat points	30-36 habitat points
Heritage Wetlands				
Category I - Forested	75 feet	Add 30 feet	Add 90 feet	Add 150 feet
Category II - based on score	75 feet	Add 30 feet	Add 90 feet	Add 150 feet
Category III (all)	60 feet	Add 45 feet	Add 105 feet	NA
Category IV (all)	40 feet	NA	NA	NA

2. The use of the standard buffer widths requires the implementation of the following measures, where applicable, to minimize the impacts of the adjacent land uses:

Disturbance	Required Measures to Minimize Impacts
Lights	Direct lights away from wetland
Noise	<ul style="list-style-type: none"> • Locate activity that generates noise away from wetland • If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source • For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10' heavily vegetated buffer strip immediately adjacent to the outer wetland buffer
Toxic runoff	<ul style="list-style-type: none"> • Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Minimize use of pesticides within 150 ft of wetland • Apply integrated pest management
Stormwater runoff	<ul style="list-style-type: none"> • Retrofit stormwater detention and treatment for roads and existing adjacent development • Prevent channelized flow from lawns that directly enters the buffer • Use Low Intensity Development techniques (per PSAT publication on LID techniques)
Change in water regime	Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	<ul style="list-style-type: none"> • Use privacy fencing OR plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion • Place wetland and its buffer in a separate tract or protect with a conservation easement
Dust	Use best management practices to control dust
Disruption of corridors or connections	<ul style="list-style-type: none"> • Maintain connections to offsite areas that are undisturbed • Restore corridors or connections to offsite habitats by replanting

3. The standard buffer widths assume that the buffer is vegetated with a native plant community appropriate for the ecoregion. If the existing buffer is unvegetated, sparsely vegetated, or vegetated with invasive species that do not perform needed functions, the buffer should either be planted to create the appropriate plant community or the buffer should be widened to ensure that adequate functions of the buffer are provided. Where a buffer planting plan is proposed, it shall include provisions for monitoring and maintenance to ensure success.
4. Measurement of wetland buffers. All buffers shall be measured 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.
5. Reduction of wetland buffer widths
 - a. The Shoreline Administrator may allow the standard wetland buffer width to be reduced in accordance with an approved critical area report and the most current, accurate, and complete scientific and technical information available on a case-by-case basis when it is determined that a smaller area is adequate to protect the wetland functions and values based on site-specific characteristics.
 - b. This determination shall be supported by documentation showing that a reduced buffer is adequate based on all of the following criteria:
 - i. The critical area report provides a sound rationale for a reduced buffer based on the most current, accurate, and complete scientific and technical information available.
 - ii. The existing buffer area is well-vegetated with native species and has less than ten percent (10%) slopes.
 - iii. No direct or indirect, short-term or long-term, adverse impacts to wetlands will result from the proposed activity.
6. Wetland buffer width averaging. The Shoreline Administrator may allow averaging of buffer widths where a qualified wetlands professional demonstrates that:
 - a. It will not reduce wetland functions or values;
 - b. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;
 - c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; and

- d. The buffer width is not reduced to less than twenty five percent (25%) of the standard width or fifty (50) feet, whichever is greater, except for buffers between Category IV wetlands and low or moderate intensity land uses, in which standard buffers of 40 feet apply.

G. Performance standards – Mitigation requirements

1. Mitigation for alterations to wetlands shall achieve equivalent or greater biologic functions. Mitigation plans shall be consistent with "Wetland Mitigation in Washington State, Part 2: Developing Mitigation Plans" (Version 1, Publication #06-06-011b, March 2006 or as revised).
2. Wetland mitigation actions shall not result in a net loss of wetland area except when the lost wetland area provides minimal functions and the mitigation action(s) results in a net gain in wetland functions as determined by a site-specific function assessment.
3. Mitigation actions shall address functions affected by the alteration to achieve functional equivalency or improvement, and shall provide similar wetland functions as those lost except when the lost wetland provides minimal functions as determined by a site-specific function assessment and the proposed mitigation action(s) will provide equal or greater functions or will provide functions shown to be limiting within a watershed through a formal watershed assessment plan or protocol.
4. Mitigation actions that require compensation by replacing, enhancing, or substitution, shall occur in the following order of preference:
 - a. Restoring wetlands on upland sites that were formerly wetlands.
 - b. Creating wetlands on disturbed upland sites such as those with vegetative cover consisting primarily of exotic introduced species.
 - c. Enhancing significantly degraded wetlands.
 - d. Preserving high-quality wetlands that are under imminent threat.
5. Mitigation sites shall be selected using "Selecting Wetland Mitigation Sites Using a Watershed Approach (Western Washington)" (Publication #09-06-032, December 2009).
6. Except where determined by the Shoreline Administrator due to weather or project conditions, mitigation projects shall be completed prior to activities that will disturb wetlands. In all other cases, mitigation shall be completed immediately following disturbance and prior to use or occupancy of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing wildlife and flora.

7. The Shoreline Administrator may authorize a one-time temporary delay, up to one-hundred-twenty (120) days, in completing minor construction and landscaping when environmental conditions could produce a high probability of failure or significant construction difficulties. The delay shall not create or perpetuate hazardous conditions or environmental damage or degradation, and the delay shall not be injurious to the health, safety and general welfare of the public. The request for the temporary delay must include a written justification that documents the environmental constraints that preclude implementation of the mitigation plan. The justification must be verified and approved by the Town, and include a financial guarantee.
8. Mitigation ratios
 - a. Acreage replacement ratios. Wetland buffers for all categories shall be replaced on a 1-to-1 ratio. The following ratios shall apply to creation, rehabilitation, enhancement, or preservation of wetlands that is in-kind, on-site, the same category, timed prior to or concurrent with alteration, and has a high probability of success. These ratios do not apply to remedial actions resulting from unauthorized alterations; greater ratios shall apply in those cases.

Category and Type of Wetland	Creation or Re-establishment	Rehabilitation	Enhancement	Preservation
Category I: Mature Forested	6:1	12:1	24:1	24:1
Category I: Based on functions	4:1	8:1	16:1	20:1
Category II	3:1	6:1	12:1	20:1
Category III	2:1	4:1	8:1	15:1
Category IV	1.5:1	3:1	6:1	10:1

- b. Increased replacement ratio. The Shoreline Administrator may increase the ratios under the following circumstances:
 - i. Uncertainty exists as to the probable success of the proposed restoration or creation;
 - ii. A significant period of time will elapse between impact and replication of wetland functions;
 - iii. Proposed mitigation will result in a lower category wetland or reduced functions relative to the wetland being impacted; or
 - iv. The impact was an unauthorized impact.

- c. Decreased replacement ratio. The Shoreline Administrator may decrease these ratios under the following circumstances:
 - i. Documentation by a qualified wetlands professional demonstrates that the proposed mitigation actions have a very high likelihood of success;
 - ii. Documentation by a qualified wetlands professional demonstrates that the proposed mitigation actions will provide functions and values that are significantly greater than the wetland being impacted; or
 - iii. The proposed mitigation actions are conducted in advance of the impact and have been shown to be successful.

9. Wetlands enhancement as mitigation

- a. Impacts to wetlands may be mitigated by enhancement of existing significantly degraded wetlands. Applicants proposing to enhance wetlands must produce a critical area report that identifies how enhancement will increase the functions of the degraded wetland and how this increase will adequately mitigate for the loss of wetland area and function at the impact site. An enhancement proposal must also show whether existing wetland functions will be reduced by the enhancement actions.
- b. At a minimum, enhancement acreage shall be as listed in Subsection 8.a. The enhancement proposal shall not result in the reduction of other wetland functions currently being provided in the wetland.

3. Geologically Hazardous Areas

A. Designation of geologically hazardous areas. Geologically hazardous areas include areas susceptible to erosion, sliding, earthquake, or other geological events. They pose a threat to the health and safety of citizens when incompatible development is sited in areas of significant hazard. Such incompatible development may not only place itself at risk, but also may increase the hazard to surrounding development and use. Areas susceptible to one or more of the following types of hazards shall be designated as a geologically hazardous area:

- 1. Erosion hazard;
- 2. Landslide hazard; and
- 3. Seismic hazard.

B. Designation of specific hazard areas

1. Erosion hazard areas. Erosion hazard areas are at least those areas identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "moderate to severe," "severe," or "very severe" rill and inter-rill erosion hazard.
2. Landslide hazard areas. Landslide hazard areas are areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. Examples of these include, but are not limited to, the following:
3. Areas of historic failures, such as:
 - a. Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" limitation for building site development;
 - b. Those areas mapped by the Department of Ecology (Coastal Zone Atlas) or the Department of Natural Resources (slope stability mapping) as unstable ("U" or class 3), unstable old slides ("UOS" or class 4), or unstable recent slides ("URS" or class 5); or
 - c. Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Department of Natural Resources.
4. Areas with all three of the following characteristics:
 - a. Slopes steeper than fifteen percent (15%); and
 - b. Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
 - c. Springs or ground water seepage.
5. Areas that have shown movement during the Holocene epoch (from ten thousand years ago to the present) or that are underlain or covered by mass wastage debris of that epoch.
6. Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials.
7. Slopes having gradients steeper than eighty percent (80%) subject to rock fall during seismic shaking.
8. Any area with a slope of forty percent (40%) or steeper and with a vertical relief of ten (10) or more feet except areas composed of consolidated rock. A slope is

delineated by establishing its toe and top and measured by averaging the inclination over at least ten (10) feet of vertical relief.

9. Seismic hazard areas. Seismic hazard areas are areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting. One indicator of potential for future earthquake damage is a record of earthquake damage in the past. Ground shaking is the primary cause of earthquake damage in Washington. The strength of ground shaking is primarily affected by:
 - a. The magnitude of an earthquake;
 - b. The distance from the source of an earthquake;
 - c. The type of thickness of geologic materials at the surface; and
 - d. The type of subsurface geologic structure.

Settlement and soil liquefaction conditions occur in areas underlain by cohesionless, loose, or soft-saturated soils of low density, typically in association with a shallow ground water table.

C. Mapping of geologically hazardous areas.

1. The approximate location and extent of geologically hazardous areas are shown on the adopted critical area maps. The adopted critical area maps include:
 - a. U.S. Geological Survey landslide hazard maps.
 - b. Department of Natural Resources seismic hazard maps for Western Washington.
 - c. Department of Natural Resources slope stability maps.
 - d. Liquefaction Susceptibility Map of Snohomish County, Washington
 - e. Town adopted maps.
2. These maps are to be used as a guide for the Town, project applicants and/or property owners, and may be continuously updated as new critical areas are identified. They are a reference and do not provide a final critical area designation.

D. Activities allowed in Erosion and landslide hazard areas. Except as otherwise provided for in these critical areas regulations, only those activities approved and permitted consistent with an approved critical area report in accordance with these critical areas regulations shall be allowed in erosion or landslide hazard areas.

E. Critical area report – Additional requirements for geologically hazardous areas.

1. Geotechnical assessment. In addition to critical area report requirements in 1.H and 1.I, a critical area report for a geologically hazardous area shall contain an assessment of geological hazards including the following site- and proposal-related information at a minimum:
 - a. Site and construction plans. The report shall include a copy of the site plans for the proposal showing:
 - i. Proposed development, including the location of existing and proposed structures, fill, storage of materials, and drainage facilities;
 - ii. The topography, in two-foot contours, of the project area and all hazard areas addressed in the report;
 - iii. The height of slope, slope gradient, and cross section of the project area;
 - iv. The location of springs, seeps, or other surface expressions of ground water on or within two hundred (200) feet of the project area or that have potential to be affected by the proposal; and
 - v. The location and description of surface water runoff.
 - b. Assessment of geological characteristics. The report shall include an assessment of the geologic characteristics and engineering properties 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 taxonomic classification systems in use in the region. The assessment shall include, but not be limited to:
 - i. A description of the surface and subsurface geology, hydrology, soils, and vegetation found in the project area and in all hazard areas addressed in the report;
 - ii. A detailed overview of the field investigations, published data and references; data and conclusions from past assessments of the site; and site specific measurements, test, investigations, or studies that support the identification of geologically hazardous areas; and
 - iii. A description of the vulnerability of the site to seismic and other geologic events.
 - c. An estimate of load capacity including surface and ground water conditions, public and private sewage disposal systems, fills and excavations and all structural development;

- d. An estimate of slope stability and the effect construction and placement of structures will have on the slope over the estimated life of the structure;
 - e. An estimate of the bluff retreat rate that recognizes and reflects potential catastrophic events such as seismic activity or a one hundred year storm event;
 - f. Consideration of the run-out hazard of landslide debris and/or the impacts of landslide run-out on down slope properties;
 - g. A study of slope stability including an analysis of proposed angles of cut and fill and site grading;
 - h. Recommendations for building limitations, structural foundations, and an estimate of foundation settlement; and
 - i. An analysis of proposed surface and subsurface drainage, and the vulnerability of the site to erosion.
 - j. An analysis of potential impacts of seismic activity if seismic hazard is found to be present.
2. Minimum buffer and building setback. The report shall make a recommendation for the minimum no-disturbance buffer and/or minimum building setback from any geologic hazard based upon the geotechnical analysis. In no case shall the minimum be less than twenty five (25) feet from the top and bottom of the slope.
 3. Erosion and sediment control plan. For any development proposal on a site containing an erosion hazard area, an erosion and sediment control plan shall be required. The erosion and sediment control plan shall be prepared in compliance with requirements set forth in the latest version of the Department of Ecology Stormwater Management Manual for Western Washington.
 4. Drainage plan. The report shall include a drainage plan for the collection, transport, treatment, discharge and/or recycle of water prepared in accordance with the latest version of the Town of Yarrow Point drainage guidelines.
 5. Mitigation plans. Hazard and environmental mitigation plans for erosion and landslide hazard areas shall include the location and methods of drainage, surface water management, locations and methods of erosion control, a vegetation management and/or replanting plan and/or other means for maintaining long term soil stability.
 6. Monitoring surface waters. If the Shoreline Administrator determines that there is a significant risk of damage to receiving waters due to potential erosion from the site, based on the size of the project, the proximity to the receiving waters, or the sensitivity of the receiving waters, the critical area report shall include a plan to

monitor the surface water discharge from the site. The monitoring plan shall include a recommended schedule for submitting monitoring reports to the Town.

7. Incorporation of previous study. Where a valid geotechnical report has been prepared within the last five (5) years for a specific site, and where the proposed land use activity and surrounding site conditions are unchanged, said report may be incorporated into the required critical area report. The applicant shall submit a geotechnical assessment detailing any changed environmental conditions associated with the site.
8. Mitigation of long-term impacts. When hazard mitigation is required, the mitigation plan shall specifically address how the activity maintains or reduces the pre-existing level of risk to the site and adjacent properties on a long-term basis (equal to or exceeding the projected lifespan of the activity or occupation). Proposed mitigation techniques shall be considered to provide long-term hazard reduction only if they do not require regular maintenance or other actions to maintain their function. Mitigation may also be required to avoid any increase in risk above the pre-existing conditions following abandonment of the activity.

F. Performance standards – General requirements

1. Alterations of geologically hazardous areas or associated buffers may only occur for activities that:
 - a. Will not increase the threat of the geological hazard to adjacent properties beyond pre-development conditions.
 - b. Will not adversely impact other critical areas.
 - c. Are designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than pre-development conditions.
 - d. Are certified as safe as designed and under anticipated conditions by a qualified professional.
 - e. Will not require structural shoreline stabilization over the life of the development except when the applicant can demonstrate that stabilization is necessary to protect allowed uses where no alternative locations are available and no net loss of ecological functions will result.
2. Critical facilities prohibited. Critical facilities shall not be sited within geologically hazardous areas unless there is no other practical alternative.

G. Performance standards – Specific hazards

1. Erosion and landslide hazard areas. Activities on sites containing erosion or landslide hazards shall meet the following requirements:

- a. Buffer required. A buffer shall be established from all edges of erosion or landslide hazard areas. The size of the buffer shall be determined by the Shoreline Administrator to eliminate or minimize the risk of property damage, death or injury resulting from erosion and landslides caused in whole or part by the development, based upon review of and concurrence with a critical area report prepared by a qualified professional.
- i. Minimum buffer. The minimum buffer shall be equal to the height of the slope or twenty five (25) feet from the top and bottom of the slope, whichever is greater.
 - ii. Buffer reduction. The buffer may be reduced to a minimum of ten (10) feet when a qualified professional demonstrates to the Shoreline Administrator's satisfaction that the reduction will adequately protect the proposed development, adjacent developments and uses and the subject critical area.
 - iii. Increased buffer. The buffer may be increased where the Shoreline Administrator determines a larger buffer is necessary to prevent risk of damage to proposed and existing development.
- b. Alterations. Alterations of an erosion or landslide hazard area and/or buffer may only occur for activities for which a geotechnical analysis is submitted and certifies that:
- i. The development will not increase surface water discharge or sedimentation to adjacent properties beyond pre-development conditions;
 - ii. The development will not decrease slope stability on adjacent properties; and
 - iii. Such alterations will not adversely impact other critical areas.
- c. Design standards. Development within an erosion or landslide hazard area and/or buffer shall be designed to meet the following basic requirements unless it can be demonstrated that an alternative design that deviates from one or more of these standards provides greater long-term slope stability while meeting all other provisions of these critical areas regulations. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function. The basic development design standards are:
- i. The proposed development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the Town building code;

- ii. Structures and improvements shall be clustered to avoid geologically hazardous areas and other critical areas;
 - iii. 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;
 - iv. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;
 - v. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;
 - vi. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes; and
 - vii. Development shall be designed to minimize impervious lot coverage.
- d. Vegetation shall be retained. Unless otherwise provided or as part of an approved alteration, removal of vegetation from an erosion or landslide hazard area or related buffer shall be prohibited.
- e. Seasonal restriction. Clearing shall be allowed only from May 1st to October 1st of each year provided that the Town may extend or shorten the dry season on a case-by-case basis depending on actual weather conditions.
- f. Utility lines and pipes. Utility lines and pipes shall be permitted in erosion and landslide hazard areas only when the applicant demonstrates that no other practical alternative is available. The line or pipe shall be located above ground and properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior.
- g. Point discharges. Point discharges from surface water facilities and roof drains onto or upslope from an erosion or landslide hazard area shall be prohibited except as follows:
- i. Conveyed via continuous storm pipe downslope to a point where there are no erosion hazards areas downslope from the discharge;
 - ii. Discharged at flow durations matching pre-developed conditions, with adequate energy dissipation, into existing channels that previously conveyed stormwater runoff in the pre-developed state; or

- iii. Dispersed discharge upslope of the steep slope onto a low-gradient undisturbed buffer demonstrated to be adequate to infiltrate all surface and stormwater runoff, and where it can be demonstrated that such discharge will not increase the saturation of the slope.
- h. Prohibited development. On-site sewage disposal systems, including drain fields, shall be prohibited within erosion and landslide hazard areas and related buffers.

4. Fish and Wildlife Habitat Conservation Areas

A. Designation of fish and wildlife habitat conservation areas. Fish and wildlife habitat conservation areas in the Town of Yarrow Point may include:

- 1. The documented presence of species proposed or listed by the federal government or state of Washington as endangered, threatened, or sensitive.
- 2. State priority habitats and areas associated with state priority species.
- 3. Heron rookeries or raptor nesting trees.
- 4. Category I and II wetlands as defined in these critical areas regulations.
- 5. Areas of native vegetation and/or stands of significant trees as designated by a qualified professional that provide a corridor between any of the critical fish and wildlife habitat areas listed in this section.
- 6. Land essential for preserving connections between habitat blocks and open spaces.
- 7. Waters of the State. Waters of the state include lakes, rivers, ponds, streams, inland waters, underground waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington, as classified in WAC 222-16-030.
- 8. Type S Waters or “Shorelines of the State,” which include Lake Washington shorelines, are regulated under the Town’s Shoreline Master Program. All Waters of the State in shoreline jurisdiction that are not Type S Waters are regulated under this appendix of the Shoreline Master Program.

B. Mapping of fish and wildlife habitat conservation areas. The following maps, which may be continuously updated, may be used as a guide for locating habitat conservation areas in the Town of Yarrow Point:

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

2. Washington State Department of Natural Resources Natural Heritage Program mapping data.
- C. Critical area report – Additional requirements for habitat conservation areas. In addition to the general critical area report requirements of Section 1.G and 1.H, a critical area report for a habitat conservation area shall contain an assessment of habitats including the following site- and proposal-related information at a minimum:
1. Detailed description of vegetation on and adjacent to the project area.
 2. 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.
 3. A discussion of any federal, state, or local special management recommendations, including Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the project area.
 4. A detailed discussion of the potential impacts on habitat by the project, including potential impacts to water quality.
 5. A discussion of ongoing management practices that will protect habitat after the project site has been developed, including proposed monitoring and maintenance programs.
 6. Detailed surface and subsurface hydrologic features both on and adjacent to the site.
- D. Buffers.
1. The Shoreline Administrator shall require the establishment of buffer areas for activities in, or adjacent to, habitat conservation areas when needed to protect habitat conservation areas. Buffers shall consist of an undisturbed area of native vegetation, or areas identified for restoration, established to protect the integrity, functions and values of the affected habitat. Required buffer widths shall reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby, and shall be consistent with the management recommendations issued by the state 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.
- E. Performance standards – General requirements

1. All regulations for fish and wildlife habitat conservation areas are in addition to regulations that govern these sensitive areas in other portions of these critical areas regulations. Whenever a conflict occurs between these regulations, the one that provides the most protection for the sensitive area shall govern.
2. Alterations shall not degrade the functions and values of habitat. All new structures and land alterations shall be prohibited from habitat conservation areas, except in accordance with these critical areas regulations. A habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat. All unavoidable impacts shall be fully mitigated.
3. Non-indigenous species shall not be introduced. No plant, wildlife, or fish species not indigenous to the region shall be introduced into a habitat conservation area unless authorized by a state or federal permit or approval.
4. Mitigation shall result in contiguous corridors. Mitigation sites shall be located to 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.
5. Approvals of activities may be conditioned. The Shoreline Administrator shall condition approvals of activities allowed within or adjacent to a habitat conservation area or its buffers, as necessary to minimize or mitigate any potential adverse impacts. Conditions may include, but are not limited to, the following:
 - a. Establishment of buffer zones.
 - b. Preservation of critically important vegetation.
 - c. Limitation of access to the habitat area, including fencing to deter unauthorized access.
 - d. Seasonal restriction of construction activities.
 - e. Establishment of a duration and timetable for periodic review of mitigation activities.
 - f. Requirement of a performance bond or other security, when necessary, to ensure completion and success of proposed mitigation.
6. Fencing
 - a. The Shoreline Administrator may condition any permit or authorization issued pursuant to this Title to require the applicant to install a permanent fence, as determined by the Shoreline Administrator, at the edge of the

habitat conservation area, when fencing will prevent future impacts to the area.

- b. Fencing installed as part of a proposed activity or as required in this Subsection shall be designed so as to not interfere with species migration.

7. Roads, trails, and rights-of-way. Construction of trails and roadways may be permitted in accordance with an approved critical area report subject to the following standards and regulations of this SMP:

- a. There is no other feasible alternative route with less impact on the environment;
- b. Trails shall be located on the outer edge of a buffer, except for limited viewing platforms and crossings;
- c. Mitigation for impacts is provided pursuant to a mitigation plan of an approved critical area report;
- d. Trails and associated viewing platforms shall not be made of continuous impervious materials.

8. Utility Facilities. New utility lines and facilities may be permitted to cross habitat conservation areas in accordance with an approved critical area report if they comply with the following standards and regulations of this SMP:

- a. Fish and wildlife habitat areas shall be avoided to the maximum extent possible;
- b. Crossings shall be contained within the footprint of an existing road or utility crossing where possible;
- c. Mitigation shall be provided for all unavoidable impacts.

9. Stormwater conveyance facilities. Conveyance structures may be permitted in accordance with an approved critical area report subject to the following standards:

- a. No other feasible alternatives with less impact exist;
- b. Mitigation for impacts is provided and mitigation sequencing is followed; and
- c. Vegetation shall be maintained and, if necessary, added adjacent to all open channels and ponds in order to retard erosion, filter out sediments, and shade the water.

F. Performance standards – Endangered, threatened, and sensitive species

1. No development shall be allowed within a habitat conservation area with which state or federally endangered, threatened, or sensitive species have a primary association, with the exception of aquatic species.
2. Whenever activities are proposed adjacent to a habitat conservation area with which state or federally endangered, threatened, or sensitive species, with the exception of aquatic 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 Town. Approval for alteration of land adjacent to the habitat conservation area or its buffer shall not occur prior to consultation with the Department of Fish and Wildlife and the appropriate federal agency.
3. Bald eagle habitat shall be protected pursuant to the Washington State Bald Eagle Protection Rules (WAC 232-12-292). Whenever activities are proposed adjacent to a verified nest territory or communal roost, a habitat management plan shall be developed by a qualified professional. Activities are adjacent to bald eagle sites when they are within eight hundred (800) feet, or within a quarter mile (2,640 feet) and in a shoreline foraging area. The Town shall verify the location of eagle management areas for each proposed activity. Approval of the activity shall not occur prior to approval of the habitat management plan by the appropriate state or federal agency.
 - e. Provision of species habitat location(s) on a map that works in concert with other Town maps;
 - f. A financial report identifying the cost of implementing a mitigation or protection plan and the financial impact of the requested designation upon affected properties;
 - g. Documentation of public notice methods that the petitioner(s) have used.