

From: [Ryan Andrews](#)
To: [Andrew Deffobis](#)
Cc: [Rick Walk](#)
Subject: Lacey Community & Economic Development Department Comment for Thurston County Shoreline Master Program
Date: Monday, October 18, 2021 10:30:59 AM

Hi Andy. Thank you for the opportunity to comment on the update to Thurston County's Shoreline Master Program. This comment is being provided for the Thurston County Planning Commission public hearing on Wednesday, October 20th.

City of Lacey Community and Economic Development staff supports the proposed buffer width of 50 feet along freshwater lakes within the Shoreline Residential environment (Page 57 of 427 buffer widths, 1.a.) in lieu of the 75-foot alternative. The 50-foot buffer requirements is consistent with the City of Lacey's buffer widths along freshwater lakes within the Shoreline Residential environment. Within the Lacey Urban Growth Area, this buffer regulation would apply to both Pattison and Long Lakes—both of which are regulated under the Lacey Master Program for those properties in the city limits as well as the Thurston County Master Program for properties in the unincorporated county. Having this consistency will ensure that adjacent properties that may be located in different jurisdictions will develop consistently. Additionally, having the same buffer regulations will improve consistency if unincorporated properties are annexed.

Thank you again for the opportunity to comment. Please let me know if you have any questions.

-Ryan

Ryan Andrews, Planning Manager
City of Lacey Community and Economic Development
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From: [Andrew Deffobis](#)
To: [Andrew Deffobis](#)
Subject: FW: WDFW Thurston SMP draft comments
Date: Tuesday, October 19, 2021 5:18:06 PM

Andrew Deffobis, Interim Senior Planner
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From: Steinweg, Noll E (DFW) <Noll.Steinweg@dfw.wa.gov>
Sent: Wednesday, October 13, 2021 1:11 PM
To: Andrew Deffobis <andrew.deffobis@co.thurston.wa.us>
Cc: Lentes, Gwendolen A (DFW) <Gwendolen.Lentes@dfw.wa.gov>
Subject: WDFW Thurston SMP draft comments

Hi Andy,

Thank you for the opportunity to review the draft SMP documents. Please find our comments embedded in the attached PDF.

Noll

Noll Steinweg
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Washington Department of Fish and Wildlife
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State of Washington
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October 13, 2021

Andrew Deffobis
Interim Senior Planner
Thurston County Community Planning and Economic Development Department
2000 Lakeridge Drive SW
Olympia, WA 98502

Subject: Thurston County SMP update

Andrew,

The Washington Department of Fish and Wildlife (WDFW) has reviewed the provided project materials and offers the following comments at this time, other comments may be offered in the future.

WDFW appreciates the SMP focus on habitat protection and public access to shoreline areas which support fish and wildlife recreational activities- values shared with our agency.

After reviewing the SMP draft, WDFW staff noted several language suggestions, WAC citation suggestions, and miscellaneous notes. These 21 comments are included as embedded comments in the attached PDF.

Thank you for the opportunity to review these materials and please let us know if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Noll Steinweg".

Noll Steinweg
Habitat Biologist
Washington Department of Fish and Wildlife
Noll.Steinweg@dfw.wa.gov

Attachments:

- *Public Hearing SMP Draft*, dated August 10, 2021 with embedded WDFW comments.
- *New Guidance Regarding Hydraulic Project Approval (HPA) Provisions for the Protection of Intertidal Forage Fish Spawning Beds*, dated June 15, 2017.

THURSTON COUNTY SHORELINE MASTER PROGRAM

Staff Note: This is a working document for the Thurston County Planning Commission's public hearing, scheduled for October 20, 2021.

This is a clean copy of the draft which reflects Planning Commission input to date. A version of this draft showing changes over time is also available.

Options for public consideration that the Planning Commission has requested are marked with highlighted text boxes.

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THURSTON COUNTY SHORELINE MASTER PROGRAM

PLANNING COMMISSION REVIEW

PREPARED FOR:

Thurston County Board of County Commissioners

PREPARED BY:

Thurston County Community Planning



July 28, 2021

DRAFT

Chapters:

19.100	Introduction
19.150	Definitions
19.200	Shoreline Jurisdiction and Environment Designation
19.300	General Goals and Policies
19.400	General Regulations
19.500	Permit Provisions, Review and Enforcement
19.600	Shoreline Use and Modification Development Standards
19.700	Special Reports
Appendix A	Shoreline Environment Designations Map
Appendix B	Mitigation Options to Achieve No Net Loss for New or Re-Development Activities
Appendix C	Shoreline Restoration Plan
Appendix D	Channel Migration Zone Maps
Appendix E	Critical Area Regulations Incorporated By Reference

Acknowledgements:

Chapter 19.100 Introduction

19.100.105 Title

The goals, policies and regulations herein shall be known as the Thurston County Shoreline Master Program, and may be referred to as the “Master Program”, “Program”, or the “SMP”.

19.100.110 Purpose and Intent

The Thurston County Comprehensive Plan explains that Thurston County’s shorelines provide valuable habitat for fish and wildlife, economic diversity, and recreational opportunities used by residents of all ages. Shorelines play an important role in enhancing the quality of life for our County’s citizens. Therefore, the purpose of the Master Program is to guide the future development of the shorelines in Thurston County in a manner consistent with the Shoreline Management Act of 1971, hereinafter the “Act.” The Act and this Program comprise the basic state and county law regulating use of shorelines in the county and is the regulating document for critical areas within shoreline jurisdiction.

Thurston County utilizes a variety of other regulations, policies, plans, and programs to supplement the goals and regulations contained within the Shoreline Master Program, and to manage shoreline resources and regulate development near the shoreline. All development projects are reviewed for compliance with the Thurston County Code (TCC) including but not limited to: Thurston County Comprehensive Plan, Zoning Ordinance (TCC 20, 21, 22, and 23); Critical Areas Ordinance (TCC 24); Thurston County Stormwater Standards (TCC 15.05); Platting and Subdivisions (TCC 18); the State Environmental Policy Act (SEPA) Ordinance (TCC 17.09.), and the Thurston County Habitat Conservation Plan (HCP) and its implementing ordinance, once adopted. The County works with other entities such as the Thurston Conservation District, Stream Team, South Sound Salmon Recovery Group and watershed lead entities to promote awareness of shoreline issues. In addition, the County has developed Shellfish Protection Districts, Basin Plans, and Capital Facilities Plans to further the goals and the policies of the Shoreline Master Program and promote wise shoreline usage.

Although critical areas in shoreline jurisdiction are identified and designated under the Growth Management Act (GMA), they must also be protected under the Shoreline Management Act (SMA). The Washington State Legislature has determined that local governments must adopt Programs that protect critical areas within shorelines at a level that assures no net loss of shoreline ecological functions (ESHB 1653 Sec. 2(4)). Although Washington’s shorelines may contain critical areas, the shorelines themselves are not critical areas by default as defined by GMA.

19.100.115 Adoption Authority

This Master Program is adopted pursuant to the authority granted under the Shoreline Management Act of 1971, Chapter 90.58 Revised Code of Washington (RCW) and Chapter 173-26 of the Washington Administrative Code (WAC).

19.100.120 Applicability

- A. Unless specifically exempted by statute, all proposed uses and development occurring within shoreline jurisdiction must conform to Chapter 90.58 RCW, the Act, this Master Program and Thurston County Code (TCC), whether or not a permit is required. Shoreline jurisdiction is described in Section 19.200.100 of this Program. Uses and activities governed by this Program are located in Chapters 19.400 and 19.600. This Master Program applies to every person, firm, corporation, government agency, or department who or which:
1. Proposes any new use, activity, development or structure within the unincorporated area of Thurston County subject to the Act, as now or hereafter amended; or
 2. Proposes a change, modification, addition or alteration to a legally existing use, activity, development or structure within the unincorporated area of Thurston County subject to the Act, as now or hereafter amended.
- B. Direct federal agency activities affecting the uses or resources subject to the Act must be consistent to the maximum extent practicable with the enforceable provisions of the Act and with this Master Program as required by WAC 173-27-060.
- C. The Act and this Program, including the permit system, shall apply to all non-federal developments and uses undertaken on federal lands and on lands subject to non-federal ownership, lease or agreement, even though such lands may fall within the external boundaries of a federal ownership.
- D. This Master Program shall apply to all unincorporated rural and urban lands within Thurston County until such time as a city incorporates land into their city boundaries through annexation and an SMP amendment.
- E. The provisions of this title for regulating critical areas in shoreline jurisdiction shall apply to all land, all water areas and all structures, and all uses irrespective of lot lines in the unincorporated territory of Thurston County, Washington, except for existing and on-going agricultural activities. Agricultural activities meeting the requirements of TCC Section 17.15.110 shall be regulated by Chapter 17.15 TCC (as updated) or by the Voluntary Stewardship Program (VSP).

19.100.125 Relationship to Other Plans and Regulations

- A. Uses, developments, and activities regulated by the Master Program may be independently subject to the Thurston County Comprehensive Plan, the Washington State Environmental Policy Act, the Thurston County Code (TCC) Zoning (Title 20, 21, 22, and 23), Platting and Subdivisions (Title 18), Environment (Title 17), the Critical Areas Ordinance (Title 24), the Thurston County HCP and its implementing ordinance (once adopted), and various other provisions of federal, state, and county laws. The applicant must comply with all applicable laws prior to commencing any use, development, or activity.
- B. Should a conflict occur between the provisions of this Program or between this Program and the laws, regulations, codes or rules promulgated by any other authority having jurisdiction within Thurston County, the more restrictive requirements shall apply, except when constrained by federal or state law, or where specifically provided otherwise in this Program.

- C. When achieved in accordance with Title 20, 21, 22, or 23 TCC (Zoning), building and lot dimension flexibility may be allowed on shorelines within Urban areas or Limited Areas of More Intensive Rural Development (LAMIRDs) when consistent with the Act and all other applicable requirements of this Program, including the requirement to achieve no net loss of shoreline ecological functions.
- Further, in order to preclude fragmentation of review and the necessity for individual shoreline permits, a combined shoreline permit is encouraged for proposed activities within the shoreline jurisdiction where feasible. For example, if a programmatic shoreline restoration project is proposed, such as multiple property owners proposing to remove shoreline armoring, the Department may determine to review the projects under one project review.
- D. Consistent with RCW 36.70A.480, the goals and policies of this Master Program approved under Chapter 90.58 RCW shall be considered an element of the County's comprehensive plan, including Chapter 19.300 (General Goals and Policies). All regulatory elements of this Program, including, but not limited to Chapter 19.100 (Introduction), Chapter 19.150 (Definitions), Chapter 19.200 (Shoreline Jurisdiction and Environment Designations), Chapter 19.400 (General Regulations), Chapter 19.500 (Permit Provisions, Review and Enforcement), Chapter 19.600 (Shoreline Use and Modification Development Standards), Chapter 19.700 (Special Reports), Appendix A (Shoreline Environment Designations Map), Appendix B (Mitigation Options to Achieve No Net Loss for New or Re-Development Activities), and Appendix D (Channel Migration Zone Maps) shall be considered a part of the County's development regulations. Certain non-regulatory elements of this Master Program, including, but not limited to Appendix C (Shoreline Restoration Plan), may be updated and amended at any time without requiring a formal Master Program amendment.
- E. Where this Program makes reference to RCW, WAC, or other state or federal law or regulation, the most recent amendment or version shall apply.
- F. This Program will be applied consistent with all applicable federal, state and local laws affecting tribal rights.
- G. Coastal Zone Management Act Consistency reviews for sites within federal jurisdiction shall apply the Environment Designation criteria in Chapter 19.200 that most closely correspond to the project site in order to determine applicable Program policies.
- H. When a site contains more than one regulated critical area, each area will be regulated by the appropriate critical area code, with the more protective requirements being applied.

19.100.130 Governing Principles

The following governing principals, along with the policy statement of RCW 90.58.020, the principles of WAC 173-26, and purpose statements in Title 24.01.010 & 24.01.015 TCC, establish the basic concepts of this Program.

- A. Any inconsistencies between this Program and the Act must be resolved in accordance with the Act.
- B. The policies of this Program may be achieved by diverse means, one of which is regulation. Other means authorized by the Act include, but are not limited to: acquisition of lands and/or easements by purchase or gift, incentive programs, and implementation of capital facility and/or non-

structural programs. Groups performing these types of restoration/protection activities in Thurston County are listed in Appendix C.

- C. Protecting the shoreline environment is an essential statewide policy goal. Permitted and/or exempt development, actions taken prior to the Act's adoption, and/or unregulated activities can impair shoreline ecological processes and functions. This Program protects shoreline ecology from such impairments in the following ways:
1. By using a process that identifies, inventories, and ensures meaningful understanding of current and potential ecological functions provided by shorelines.
 2. By including policies and regulations that require mitigation of all adverse impacts in a manner that ensures no net loss of shoreline ecological functions. The required mitigation shall include avoidance, minimization, and compensation of impacts in accordance with the policies and regulations for mitigation sequencing. This Program and any future amendment hereto shall ensure no net loss of shoreline ecological functions and processes on a programmatic basis in accordance with the baseline functions present as of the date of adoption of this Program.
 3. By including policies and regulations that ensure that the cumulative effect of exempt development will not cause a net loss of shoreline ecological functions, and by fairly allocating the burden of addressing such impacts among development opportunities.
 4. By including regulations and regulatory incentives designed to protect shoreline ecological functions, and restore impaired ecological functions where such opportunities have been identified, consistent with the Shoreline Restoration Plan (Appendix C) developed by Thurston County.
- D. Regulation of private property to implement Program goals, such as public access and protection of ecological functions and processes, must be consistent with all relevant constitutional and other legal limitations. These include, but are not limited to the protections afforded by the federal and state constitutions, and federal, state and local laws.
- E. Regulatory or administrative actions contained herein must be implemented with consideration to the Public Trust Doctrine, regulatory takings, and other applicable legal principles as appropriate.
- F. Regulatory provisions of this Program are limited to Shorelines of the State, shorelines of statewide significance, and associated shorelands and their buffers, whereas the planning functions of this Program may extend beyond the designated shoreline boundaries.
- G. Consistent with the policy and use preferences of RCW 90.58.020, Thurston County should balance the various policy goals of this Program along with giving consideration to other relevant local, state, and federal regulatory and non-regulatory programs.

19.100.135 Liberal Construction

As provided for in RCW 90.58.900, the Act is exempted from the rule of strict construction. Therefore, the Act and this Program shall be liberally construed to give full effect to the purposes, goals, objectives, and policies for which the Act and this Program were enacted and adopted, respectively.

19.100.140 Severability

Should any section or provision of this Program be declared invalid, such decision shall not affect the validity of this Program as a whole.

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Chapter 19.150 Definitions

Where terms, phrases and words are not defined, they shall have their ordinary accepted meanings within the context with which they are used. The most current version of the English Webster's Dictionary shall be considered as providing ordinary accepted meanings. In addition, where available, the definitions provided in WAC 173-26-020, WAC 173-27-030, WAC 173-20-030, WAC 173-22-030, RCW 90.58 are adopted by reference, as amended, TCC 20.03, or TCC Title 24.03 shall be applied in the interpretation and administration of this Program. Various terms presented in this section may be defined differently in other chapters of the Thurston County Code.

19.150.100 Abandonment: cessation or vacation of a permitted use or structure through non-action for a period of two years.

19.150.105 Accessory use or accessory structure - any use or structure customarily incidental and accessory to the principal use of a site or a building or other structure located upon the same lot.

19.150.115 Accretion: the growth of a beach by the addition of material transported by wind and/or water. Included are such shoreforms as barrier beaches, points, spits, and hooks.

19.150.120 Adaptive Management: a process of evaluating data acquired through project monitoring relative to a developed plan with goals or benchmarks, and taking action based on the results in order to reduce uncertainty with regard to adverse ecological impacts and improve outcomes over time.

19.150.125 Adjacent Principle Building: a principle building on a lot abutting the applicant's lot.

19.150.130 Agriculture: uses and practices, primarily commercial in nature, which are in support of agricultural activities, agricultural products, agricultural equipment and facilities, and agricultural land, as defined in WAC 173-26-020(3). This excludes activities typically associated with single-family residences, such as gardening activities primarily for on-site consumption. Such uses may still be subject to other provisions of this Program, Title 24 TCC, or Title 17.15 TCC.

19.150.135 Amendment: a revision, update, addition, deletion, and/or reenactment to an existing shoreline master program.

19.150.140 Anchor: a device used to secure a vessel

19.150.145 Appurtenance: structures and development necessarily connected to the use of a single family residence, and located within contiguous ownership of the primary residential use. Common appurtenances include a garage, deck, driveway, fences, utilities, septic tanks, wells, and drain-fields, officially registered historic structures, and grading which does not exceed two hundred fifty cubic yards and which does not involve placement of fill in any wetland or waterward of the OHWM. Appurtenances do not include bulkheads and other shoreline modifications or over-water structures, including stair towers with landings at or below the ordinary high water mark.

19.150.150 Aquaculture: the culture or farming of fish, shellfish, or other aquatic plants and animals. Aquaculture does not include the harvest of wild geoduck associated with the state and tribal co-managed wild-stock geoduck fishery.

19.150.155 Aquatic Lands: the bed-lands (submerged at all times) and tidelands (submerged lands and beaches that are exposed and submerged with the ebb and flow of the tides) beneath the waters of lakes, rivers and marine waters and along their shores.

19.150.160 Associated Wetlands: those wetlands which are in proximity to and either influence or are influenced by tidal waters or a lake or stream subject to the Act.

19.150.165 Barrier Structure: any shoreline or in-water structure that has the primary purpose of diverting, capturing or altering the natural flow or transport of water or sediment. These include breakwaters, jetties, groins and weirs.

19.150.170 Best Management Practices: those practices determined to be the most efficient, practical and cost-effective measures identified to reduce or control impacts to water bodies from a particular activity, most commonly by reducing the loading of pollutants from such sources into stormwater and water bodies.

19.150.175 Boat House: a structure built for and with a continued primary purpose to store watercraft and usually associated with a single-family residence.

19.150.180 Boat Launch or Ramp: a ramp, usually made of concrete, used for the purpose of placing watercraft in and out of the water.

19.150.182 Boat Launch Rail System: a pair of sloping tracks which extends into the tidelands or lake, used for the purpose of placing watercraft in and out of the water.

19.150.185 Boating Facilities: mooring structures and related services serving five or more watercraft, including piers, docks, buoys, floats, marinas, and facilities for the use of watercraft launching, watercraft storage, or for the service and maintenance of pleasure or commercial watercraft.

19.150.190 Breakwater: a protective structure usually built off-shore to protect beaches, bluffs, or harbor areas from wave action.

19.150.195 Buffer: a non-clearing area established to protect the integrity, functions and values of the affected critical area or shoreline, so that no net loss of critical area or shoreline ecological functions occurs. Under optimal conditions, buffers are composed of intact native vegetation. Buffer widths are measured horizontally.

19.150.200 Building: any structure used or intended for supporting or sheltering any use or occupancy.

19.150.205 Building Line: the perimeter or that portion of a primary building closest to the ordinary high water mark (OHWM), including (but not limited to) decks, balconies, open steps, architectural features (such as cornices), utilities, and roof overhangs.

19.150.210 Bulkhead: a vertical or nearly vertical structure placed parallel to the shoreline at or near the OHWM for purposes of armoring the shoreline and protecting structures from effects of erosion caused by wind or waves. Bulkheads generally consist of concrete, timber, steel, rock, or other material resistant to erosion. Bulkheads are used to protect banks by retaining soil at the toe of the slope, or by protecting the toe of the bank from erosion and undercutting. A “normal protective” bulkhead includes those structural and nonstructural developments installed at or near, and parallel to, the OHWM for the sole purpose of protecting an existing single-family residence, appurtenant residential structures, and eutrophic lakes from loss or damage by erosion.

19.150.215 Buoy: an anchoring device with a float used to secure a vessel. For the purposes of this program, the term “buoy field” refers to more than one buoy per parcel.

19.150.220 Census-Defined Urban Areas: Territories that consist of areas of high population density and urban land use resulting in a representation of “urban footprint”. The territories include residential, commercial and other non-residential urban land uses. Defined by U.S. Department of Commerce and the U.S. Census Bureau Tigerline Shapefile 2012:

<http://www.census.gov/geo/www/ua/2010urbanruralclass.html>.

19.150.225 Certified Local Government: a local government that establishes a historic preservation program meeting federal and state standards, and is eligible to apply to the State Historic Preservation Officer (SHPO) and the National Park Service for certification.

19.150.230 Clearing: the destruction, removal, or disposal of vegetation by manual, mechanical, or chemical methods. Clearing includes logging, even when the understory of vegetation is not being removed.

19.150.235 Commercial, Commercial Development: a use that involves wholesale or retail trade, or the provision of services.

19.150.240 Compensatory Mitigation: is the stage of mitigation sequencing where unavoidable impacts to shoreline ecological functions are offset by restoring, creating, enhancing, or preserving critical habitat within a specific watershed or geographic area.

19.150.245 Conditional Use Permit (CUP): a permit for a use, development, or substantial development that is classified as a conditional use or is not a listed use in the Use and Modifications Matrix in Chapter 19.600.

19.150.250 Critical Areas: As defined in Title 24 (Critical Areas) of the Thurston County Code which is adopted by reference as described in section 19.400.115 and Appendix E, provided that the reasonable use provisions set forth in TCC 24.45, and 24.17, shall not be available within the shoreline jurisdiction. Instead, applicants may apply for a shoreline variance when seeking relief from critical areas regulations within shorelines.

19.150.255 Critical Habitat: Habitat areas within which endangered, threatened, sensitive or monitored plant, fish, or wildlife species have a primary association (e.g., feeding, breeding, rearing of young, migrating). Such areas are identified herein with reference to lists, categories, and definitions promulgated by the Washington Department of Fish and Wildlife as identified in WAC 232-12-011 or WAC 232-12-014; in the Priority Habitat and Species (PHS) program by the Department of Fish and Wildlife; or by rules and regulations adopted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other agency with jurisdiction for such designations.

19.150.260 Critical Freshwater Habitats: includes those portions of streams, rivers, wetlands, lakes and their associated channel migration zones and flood plains that provide habitat for priority species at any stage in their life cycles, and provide critical ecosystem-wide processes, as established in WAC 173-26-221(2)(c)(iv). This is distinguished from the term “Critical Habitat” as utilized in relation to the Endangered Species Act.

19.150.265 Critical Saltwater Habitats: as defined in **WAC 173-26-221(2)(c)(iii)**, include all kelp beds; eelgrass beds; spawning and holding areas for forage fish, such as herring, smelt and sand lance; subsistence, commercial and recreational shellfish beds; mudflats; intertidal habitats with vascular plants;

and areas with which priority species have a primary association. See this chapter for definitions of each type of critical saltwater habitat. This is distinguished from the term “Critical Habitat” as utilized in relation to the Endangered Species Act.

19.150.270 Cumulative impacts or cumulative effects: the impact on the environment or other shoreline functions or uses which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a long period of time. See WAC 173-26-186(8)(d).

19.150.275 Department: for the purposes of this program, means the Thurston County Community Planning and Economic Development Department (or as amended).

19.150.280 Development: any human-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, clearing, paving, excavation or drilling operations, storage of equipment or materials, bulkheading, driving of piling, placing of obstructions, or any project of a permanent or temporary nature which interferes with the normal public use of the surface waters overlying lands subject to the Act at any stage of water level. Development does not include dismantling or removing structures if there is no other associated development or re-development.

19.150.285 Development Regulation Standards: controls placed on development or land uses, including, but not limited to, zoning ordinances, critical areas ordinances, all portions of a shoreline master program other than goals and policies approved or adopted under Chapter 90.58 RCW, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto.

19.150.290 Dock: the collective term for a moorage structure that typically consists of a nearshore fixed-pier, a ramp (or gangway), and a float that is used as a landing place for marine transport or for recreational purposes. It does not include recreational decks, storage facilities or other accessory structures.

19.150.295 Dredge: the removal of earth, gravel, sand or other mineral substances from the bottom of a stream, river, lake, bay, or other waterbody, including wetlands.

19.150.300 Ecological Functions: the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem.

19.150.305 Ecologically Intact: those shoreline areas that retain the majority of their natural shoreline functions, as evidenced by the shoreline configuration and the presence of native vegetation. Generally, but not necessarily, ecologically intact shorelines are free of structural shoreline modifications, structures, and intensive human uses. In forested areas, they generally include native vegetation with diverse plant communities, multiple canopy layers, and the presence of large woody debris available for recruitment to adjacent water bodies. Recognizing that there is a continuum of ecological conditions ranging from near natural conditions to **totally** degraded and contaminated sites, this term is intended to delineate those shoreline areas that provide valuable functions for the larger aquatic and terrestrial environments which could be lost or significantly reduced by human development. Whether or not a shoreline is ecologically intact is determined on a case-by-case basis.

19.150.310 Eelgrass a flowering plant adapted to the marine environment that roots in sand or mud in shallow waters where waves and currents are not too severe. Eelgrass beds require high ambient light levels.

19.150.315 Emergency: an unanticipated and imminent threat to public health, safety, or the environment which requires immediate action within a time too short to allow full compliance with this program. All emergency construction is construed narrowly and shall be consistent with the SMA and this Program (RCW 90.58.030 (3eiii)). See also emergency exemption procedures in WAC 173-27-040(2)(d).

19.150.320 Endangered Species Act (ESA) - a federal law intended to protect any fish or wildlife species that are threatened with extinction throughout all or a significant portion of its range.

19.150.325 Enhancement: to improve the ecological functions at the site or landscape scale. This includes physical, biological and chemical processes which contribute to the maintenance of the aquatic and terrestrial environments.

19.150.330 Environmental Limitations: limiting factors to new modifications or development, such as floodplains or unstable slopes.

19.150.335 Excavation: the mechanical removal of earthen material.

19.150.340 Exemptions: uses and development, set forth in WAC 173-27-040 and RCW 90.58.030 (3)(e), 90.58.140(9), 90.58.147, 90.58.355, and 90.58.515, that are not required to obtain a Substantial Development Permit, but which must otherwise comply with applicable provisions of the Act and this Program. Certain exemption developments must obtain a letter of exemption (see Section 19.500.100(C)(3)).

19.150.345 Existing Lots: lots, tracts, parcels, sites or other fractional part of divided land that was legally established in accordance with local and state subdivision requirements prior to the effective date of this Program.

19.150.350 Existing Structures: structures that were legally constructed prior to the effective date of this Program in accordance with the requirements in effect at the time of construction.

19.150.355 Existing Uses: uses that were legally established prior to the effective date of this Program in accordance with the applicable regulations at the time established.

19.150.360 Facilities: defined per 19.600.115(3)

19.150.365 Feasible: an action, such as a development project, mitigation, or preservation requirement, that meets all of the following conditions:

- A. The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results;
- B. The action provides a reasonable likelihood of achieving its intended purpose; and
- C. The action does not physically preclude achieving the project's primary intended legal use.

The burden of proving infeasibility is on the applicant. In determining infeasibility, the reviewing agency may weigh the action's relative public costs and public benefits, considered in the short- and long-term time frames.

19.150.367 Feeder Bluff: A feeder bluff is an actively eroding coastal bluff that delivers sand and gravel to a beach over time. Feeder bluffs contribute to the amount of sediment on the beach below. Most bluffs erode to some extent and are likely to provide sediment to the coastal environment. The amount of sediment delivered by coastal bluffs depends on several factors including the height of the bluff, proportion of beach-size sediment in the bluff, and the rate of bluff retreat or erosion.

19.150.370 Fill: the addition or redistribution of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the OHWM, within a one-hundred year floodplain; or within an important habitat, lake, pond, stream, wetlands, or shorelands (and their associated buffers) in a manner that changes the elevation or creates dry land. Large woody debris or other native materials approved as a part of a habitat restoration project shall not be considered fill.

19.150.375 Float: an anchored (not directly to the shore) floating platform that is free to rise and fall with water levels and is used for water-dependent recreational activities such as boat mooring, swimming or diving. Floats may stand alone with no over-water connection to shore or may be located at the end of a pier or ramp.

19.150.376 Floating Home: a single-family dwelling unit constructed on a float, that is moored, anchored, or otherwise secured in waters, and is not a vessel, even though it may be capable of being towed.

19.150.377 Floating On-Water Residence: any floating structure other than a floating home, as defined by this chapter:

- A. That is designed or used primarily as a residence on the water and has detachable utilities; and
- B. Whose owner or primary occupant has held an ownership interest in space in a marina, or has held a lease or sublease to use space in a marina, since a date prior to July 1, 2014.

19.150.378 Flood Hazard Area: means those lands which are subject to a one percent or greater chance of flooding in any year. Flood hazard areas are shown on a flood hazard boundary map or flood insurance rate map as Zone A, AE, AO, AH, VE, V or high ground water flood hazard areas resource map, on file with the department or the highest known recorded flood elevation.

19.150.379 Flood Hazard Reduction Measures: actions taken to reduce flood damage or hazard. Flood hazard reduction measures may consist of nonstructural measures, such as setbacks, land use controls, wetland restoration, dike removal, use relocation, biotechnical measures, and stormwater management programs, and of structural measures, such as dikes, levees, revetments, floodwalls, channel realignment, and elevation of structures consistent with the National Flood Insurance Program.

19.150.379.5 Floodway: the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. The regulated floodway has been delineated on the flood insurance rate map (FIRM).

19.150.380 Forage Fish: small, schooling fishes that are key prey items for larger predatory fish and wildlife in a marine food web. Puget Sound species include, but are not limited to, Pacific herring, surf smelt, Pacific sand lance and northern anchovy. Each species has specific habitat requirements for spawning, such as sediment grain size, tidal heights, or vegetation types. Known spawning and holding areas have been mapped by the Department of Fish and Wildlife.

19.150.385 Forest Practices: any activity conducted on or directly pertaining to forestland and relating to growing, harvesting or processing timber, including, but not limited to:

- A. Road and trail construction;
- B. Harvesting, final and intermediate;
- C. Pre-commercial thinning;
- D. Reforestation;
- E. Fertilization;
- F. Prevention and suppression of diseases and insects;
- G. Salvage of trees; and
- H. Brush control.

Forest practices shall not include preparatory work such as tree marking, surveying and road flagging; or removal or harvest of incidental vegetation from forest lands such as berries, ferns, greenery, mistletoe, herbs, mushrooms and other products which cannot normally be expected to result in damage to forest soils, timber or public resources.

19.150.387 Frequently Flooded Areas: lands in the flood plain subject to at least a one percent or greater chance of flooding in any given year or areas within the highest known recorded flood elevation, or within areas subject to flooding due to high ground water. This includes all areas within unincorporated Thurston County identified on flood insurance rate maps prepared by the Federal Insurance Administration, as supplemented by "The Flood Insurance Study for Thurston County," dated November 17, 1980, as amended. (These maps and the referenced report shall be on file with the department at the Thurston County Permit Assistance Center). Frequently flooded areas may include special flood hazard areas as defined in Chapter 14.38 TCC or high ground water flood hazard areas, where high ground water forms ponds on the ground surface, or may overlap with other critical areas, such as streams, rivers, lakes, coastal areas, and wetlands.

19.150.390 Groin: barrier-type structures extending waterward from the back shore across the beach to interrupt and trap sand movement.

19.150.395 Guidelines (WAC): those standards adopted by the Department of Ecology pursuant to RCW 90.58.200 to assist in the implementation of Chapter 90.58 RCW for the regulation of shorelines of the state. The standards may be referenced at WAC 173-26 and 173-27.

19.150.400 Hard Surface: An impervious surface, a permeable pavement, or a vegetated roof.

19.150.405 Impervious Surface: A non-vegetated surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A non-vegetated surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater.

19.150.410 Industrial, Industrial Development: facilities for processing, manufacturing, and storing finished or partially finished goods; heavy vehicle dispatch and maintenance facilities; and similar facilities. This definition excludes lawfully permitted home-based businesses.

19.150.415 In-lieu Fee (Fee In-Lieu): a fee paid to a sponsor (e.g., Thurston County,) to satisfy compensatory mitigation requirements when mitigation is precluded from being completed on-site due to site development or physical constraints, as part of a habitat conservation plan, or when the permitting agencies determine that ILF is more environmentally preferable over proposed permittee responsible mitigation.

19.150.420 Invasive exotics/non-native vegetation: see Chapters 17.10.010 RCW and WAC 16-750-003

19.150.425 In-stream Structure: structure placed by humans within a stream or river waterward of the ordinary high water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation, water supply, flood control, transportation, utility service transmission, fish habitat enhancement, or other purpose.

19.150.430 Jetty: barrier-type structures designed to modify or control sand movement and usually placed at inlets to improve a navigable channel.

19.150.435 Kelp: a plant generally attaching to bedrock or cobbles in shallow waters, especially in areas with moderate to high waves or currents. Kelp beds generally require high ambient light levels. Kelp includes both floating and non-floating species. Where kelp beds are disputed as a critical saltwater habitat, appropriate state agencies and co-managing tribes shall be consulted in order to assist with the determination.

19.150.440 Landscaping: the improvement of a lot, parcel, or tract of land with a combination of living plants such as grasses, shrubs, trees, and/or other plant materials and nonliving materials such as rocks, mulch, walls, fences, and/or ornamental objects designed and arranged to produce an aesthetically pleasing effect.

19.150.445 Land-disturbing Activity: Any activity that results in a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to clearing, grading, filling, and excavation. Compaction that is associated with stabilization of structures and road construction shall also be considered a land disturbing activity. Vegetation maintenance practices, including landscape maintenance and gardening, are not considered land-disturbing activity. Stormwater facility maintenance is not considered land disturbing activity if conducted according to established standards and procedures.

19.150.505 Limited Area of More Intense Rural Development (LAMIRD): locally designated rural areas authorized to accept more intense, urban-like development under RCW 36.70A.070(5)(d) and Title 20 TCC.

19.150.510 Live Aboard: use of a vessel as a residence, meaning full time occupancy in a single location, for an uninterrupted period exceeding 60 days in any calendar year.

19.150.515 Lot: a fractional part of divided lands having fixed boundaries, being of sufficient area and dimension to meet minimum zoning requirements for width and area. The term shall include tracts, or parcels. Where the context so indicates, lots, tracts or parcels may refer to subdivided lands not conforming to, or in violation of, zoning or subdivision regulations.

19.150.520 Lot Coverage: the percent or square footage of a lot that will be covered by a modification to impervious or hardened surfaces.

19.150.525 Low Impact Development (LID): a stormwater management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

19.150.530 Low-intensity: activities which do not adversely alter natural ecosystem functions.

19.150.535 Macroalgae: Marine algae visible to the naked eye, such as kelp or other seaweeds.

19.150.540 Marina: a water dependent wet moorage and/or dry boat storage facility for 10 or more pleasure craft and/or 10 or more commercial craft, and generally including goods or services related to boating. Marinas also include wet moorage facilities where boat moorage slips may be leased or rented to individuals who are not a member owner of an associated residential development. Launching facilities may also be provided. Marinas may be open to the general public or restricted on the basis of property ownership or membership.

19.150.550 May: a permissive term that means the action is acceptable, provided it satisfies all other provisions of this Program.

19.150.555 Mining: the removal of sand, soil, minerals, and other naturally occurring materials from the earth for commercial or economic use.

19.150.560 Mitigation Sequencing: Mitigation actions associated with development proposals impacting critical areas shall adhere to the following mitigation sequence:

- A. Avoiding the impact altogether by not taking a certain action or parts of an action;
- B. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
- C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- D. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

- E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or
- F. Monitoring the impact and taking appropriate corrective measures.

19.150.565 Modification: those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, breakwater, pier, weir, dredged basin, fill, bulkhead, or other structure. They can include other actions, such as clearing, grading, or application of chemicals.

19.150.570 Mooring Structures: includes piers, docks, floats and buoys and their associated pilings, ramps, lifts and rails, as well as modifications that support boating facilities and marinas. Any mooring structure or grouping of structures that provide docking space for 10 or more boats is considered a marina.

19.150.575 Mudflats: a low-lying land of fine sediments and silt that is exposed at low tide and covered at high tide.

19.150.580 Must: means an action is required or mandatory.

19.150.585 Natural hydrographic conditions: the natural conditions for a particular time of year of water delivery and movement through a system.

19.150.587 Navigation channel: a cut or naturally deeper channel in the sea, lake or stream bed that enables passage for watercraft.

19.150.590 No Net Loss: the maintenance of the aggregate total of the County's shoreline ecological functions. The no net loss standard requires that the impacts of shoreline development and/or use, whether permitted or exempt, be identified and prevented or mitigated such that there are no resulting adverse impacts on ecological functions or processes. Each project shall be evaluated based on its ability to meet the no net loss requirement. The no net loss standard applies at multiple scales, starting at the project site. Compensatory mitigation standards include sequencing guidelines to ensure the most appropriate mitigation type and site are selected, as close to the impacted location as possible.

19.150.592 (Legally) Nonconforming: A term applying to a use or structure that was lawfully established but no longer meets statutory and regulatory requirements, such as buffers and setbacks.

19.150.595 Normal Maintenance: those usual acts necessary to prevent a decline, lapse or cessation from a lawfully established condition.

19.150.600 Normal Repair: to restore a development to a state comparable to its original condition, including, but not limited to, its size, shape, configuration, location and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to a shoreline resource or environment. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including but not limited to its size, shape, configuration, location and external appearance and the replacement does not cause substantial adverse effects to shoreline resources or environment.

19.150.605 Noxious Weeds: see Chapters 17.10.010 RCW and WAC 16-750-003.

19.150.610 Ordinary High Water Mark (OHWM): the mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition existed on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by the County or Ecology provided, that in any area where the OHWM cannot be found, the OHWM adjoining salt water shall be the line of mean higher high tide and the OHWM adjoining fresh water shall be the line of mean high water.

19.150.612 Overwater Structure: a structure built or placed on or over the water. Some examples include recreational piers, docks and floats, platforms and floats used for aquaculture, boat houses, and residences. Water-oriented commercial and industrial uses may also have overwater structures.

19.150.615 Pervious Surface: Any surface material that allows stormwater to infiltrate into the ground. Examples include lawn, landscape, pasture, native vegetation areas, and permeable pavements.

19.150.620 Pier: a rigid structure built over the water and typically constructed on piles, attached to the shore and used as a landing place for marine transport or for recreational purposes.

19.150.625 Platted: land that has been divided following the applicable laws for divisions of land under Title 18 TCC, including land subject to a current application for such division.

19.150.630 Predator Exclusion (Aquaculture): an object or activity used to implement pest management in aquaculture practices with the intent of deterring or excluding predators such as moon snails, sea star, crabs, diving ducks, burrowing shrimp or sand dollars. Common methods include, but are not limited to, large canopy nets, mesh, PVC tubes with net caps, flexar plastic tunnels, oyster bags and suspended culture systems.

19.150.632 Predator Exclusion (General): a practice of utilizing equipment or strategies to discourage predation on living organisms. This practice may be undertaken to protect aquaculture operations or in conservation efforts to boost the reproductive success and survival of rare species.

19.150.635 Principle Building: the primary structure on a lot closest to the ordinary high water mark excluding accessory structures.

19.150.640 Priority Species: species requiring protective measures and/or management guidelines to ensure their persistence at genetically viable population levels. Priority species are those that meet any of the criteria listed below.

- A. State-listed or state proposed species. State-listed species are those native fish and wildlife species legally designated as endangered (WAC 232-12-014), threatened [WAC 232-12-011(1)], or sensitive (WAC 232-12-011). State proposed species are those fish and wildlife species that will be reviewed by the Washington Department of Fish and Wildlife (POL-M 6001) for possible listing as endangered, threatened, or sensitive according to the process and criteria defined in WAC 232-12-297.
- B. Vulnerable aggregations. Vulnerable aggregations include those species or groups of animals susceptible to significant population declines, within a specific area or statewide, by virtue of their inclination to congregate. Examples include heron colonies, seabird concentrations, and marine mammal congregations.

- C. Species of recreational, commercial, and/or tribal importance. Native and nonnative fish, shellfish, and wildlife species of recreational or commercial importance and recognized species used for tribal ceremonial and subsistence purposes that are vulnerable to habitat loss or degradation.
- D. Species listed by the National Marine Fisheries Service or the U.S. Fish and Wildlife Service under the federal Endangered Species Act as either proposed, threatened, or endangered.

19.150.645 Prohibited: not permitted to occur in a particular designation.

19.150.650 Public Access: the ability of the general public or, in some cases, a specific community, to reach, touch, and enjoy the water's edge, to travel on the waters of the state, and to view the water and the shoreline from adjacent locations.

19.150.655 Qualified Professional or Qualified Consultant: in accordance with WAC 365-195-905(4), a qualified professional must have obtained a B.S. or B.A. or equivalent degree in biology, soil science, engineering, environmental studies, fisheries, geology, geomorphology or related and relevant field to the subject in question, have related work experience and meet the following criteria:

- A. A qualified professional for wetlands must have a degree in biology, ecology, soil science, botany, or a closely related field and a minimum of five years of professional experience in wetland identification and assessment associated with wetland ecology in the Pacific Northwest or comparable systems.
- B. A qualified professional for habitat management plans or shoreline mitigation plans must have a degree in wildlife biology, ecology, fisheries, or closely related field and a minimum of five years professional experience related to the subject species/habitat type.
- C. A qualified professional for geologically hazardous areas, geotechnical and hydrogeological reports must be a professional engineering geologist or geotechnical engineer, licensed in the state of Washington. In designing soft armoring techniques, a qualified professional may also have similar qualifications as that required for habitat management plans.
- D. A qualified professional for critical aquifer recharge areas means a Washington State licensed hydrogeologist, geologist, or an engineer qualified in experience and training in aquifer recharge.

19.150.660 Ramp (or gangway): a structure between a pier and float which adjusts its angle based on the tidal elevation, allowing access to the float at all times.

19.150.665 Recreation: the use and enjoyment of the shoreline by the public, including but not limited to fishing, hiking, swimming and viewing.

19.150.670 Recreational Development: development that provides opportunities for the use and enjoyment of the shoreline by the public, including but not limited to fishing, hiking, swimming and viewing. This includes both commercial and public recreational facilities.

19.150.675 Residential Development: development for the purpose of human habitation. Residential development includes the construction or modification of one- and two-family detached structures, multi-family structures, condominiums, townhouses, mobile home parks, and other similar group housing, together with accessory dwelling units, accessory uses and structures common to residential uses. Residential development also includes the creation of new residential lots through the subdivision of land.

Residential development does not include hotels, motels, bed and breakfasts, or any other type of overnight or transient housing or camping facilities.

19.150.680 Resource-based Uses: low-intensity uses, which may include agriculture, aquaculture, forestry, recreation and designated open-space.

19.150.685 Restoration: the reestablishment or upgrading of impaired ecological shoreline processes and functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions.

19.150.690 Revision: the modification or change to a permit authorized under this Program.

19.150.695 Setback: the distance a use or development must be from the edge of a buffer to prevent construction and other activities from intruding into the buffer.

19.150.700 Shall: means an action is required or mandatory.

19.150.705 Shellfish Beds: a general area of shoreline, both intertidal and subtidal, where shellfish congregate. This includes natural subsistence, recreational and commercial beds. Shellfish include, but are not limited to, abalone, hardshell clam, subtidal clam, dungeness crab, geoduck clam, manila clam, oysters, razor clam, pandalid shrimp and red urchin. Where disputed as a critical saltwater habitat, appropriate state agencies and affected tribes shall be consulted in order to assist with the determination.

19.150.710 Shorelands: those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter; the same to be designated as to location by the department of ecology.

19.150.715 Shoreline Management Act (Act): the Washington State Shoreline Management Act, Chapter 90.58 RCW.

19.150.720 Shoreline Stabilization: actions taken to address erosion impacts to property and dwellings, businesses, or structures caused by natural processes, such as current, flood, tides, wind or wave action.

These actions include structural and nonstructural methods. Nonstructural methods, for example, include approaches such as building setbacks, structure relocation, groundwater management, and land use planning. Structural methods can be "hard" or "soft". "Hard" structural stabilization measures refer to those with solid, hard surfaces, such as concrete bulkheads, while "soft" structural measures rely on less rigid materials, such as bioengineering vegetation measures or beach enhancement. "Hybrid" structures are a composite of both soft and hard elements along the length of the armoring. Generally, the harder the construction measure, the greater the impact on shoreline processes including sediment transport, geomorphology, and biological functions.

There are a range of measures for shoreline stabilization, varying from soft to hard that include, but are not limited to:

- A. Soft
 1. Vegetation enhancement;
 2. Beach enhancement;

3. Bioengineering measures;
4. Anchor logs and stumps; and
5. Gravel placement/beach nourishment.

B. Hard

1. Rock revetments;
2. Gabions;
3. Groins;
4. Bulkheads; and
5. Seawalls.

19.150.725 Shoreline Structure Setback Line: the closest distance measured on a horizontal plane between the ordinary high water mark and the building line (includes the buffer and building setback).

19.150.730 Shorelines of the State: includes all “shorelines” and “shorelines of statewide significance” within the state, as defined in RCW 90.58.030.

19.150.735 Shorelines: means all of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them; except (i) shorelines of statewide significance; (ii) shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with such upstream segments; and (iii) shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes;

19.150.740 Shorelines of Statewide Significance: shorelines in Thurston County designated as shorelines of statewide significance are:

- A. Puget Sound – seaward from the line of extreme low tide.
- B. Nisqually Delta – from DeWolf Bight to Tatsolo Point, between the ordinary high water mark and the line of extreme low tide, together with shorelands associated therewith per RCW 90.58.030(2)(f)(vi).
- C. Lakes, whether natural or artificial, or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high water mark.
- D. Natural rivers or segments thereof downstream of a point where the mean annual flow is measured at one thousand cubic feet per second or more.
- E. Shorelands and wetlands associated with B through D above.

19.150.745 Should: a term that means a particular action is required unless there is a demonstrated, sufficient reason, based on a policy of the Act or this Program, for not taking the action.

19.150.750 State Environmental Policy Act (SEPA): An environmental review process designed to work with other regulations to provide a comprehensive review of a proposal. Most regulations focus on particular aspects of a proposal, while SEPA requires the identification and evaluation of probable impacts for all elements of the environment. See Chapter 197-11WAC.

19.150.755 Streams: means those areas of Thurston County where surface waters flow sufficiently to produce a defined channel or bed. A "defined channel or bed" is an area which demonstrates clear

evidence of the passage of water and includes but is not limited to bedrock channels, gravel beds, sand and silt beds and defined-channel swales. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses unless they are used by salmon or used to convey streams naturally occurring prior to construction.

"Stream and water body types" means as follows:

1. **Type S waters** include all aquatic areas inventoried as "shorelines of the state," in accordance with Chapter 90.58 RCW, including segments of streams where the mean annual flow is more than twenty cubic feet per second, marine shorelines and lakes twenty acres in size or greater.
2. **Type F waters** include all segments of aquatic areas that are not type S waters and that contain fish or fish habitat including waters diverted for use by a federal, state or tribal fish hatchery from the point of diversion for one thousand five-hundred feet or the entire tributary if the tributary is highly significant for protection of downstream water quality.
3. **Type N waters** include all segments of aquatic areas that are not type S or F waters and that are physically connected by an above-ground channel system, stream or wetland to type S or F waters.

19.150.760 Stormwater Facility: A constructed component of a stormwater drainage system designed or constructed to perform a particular function, or multiple functions. Stormwater facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention ponds, retention ponds, constructed wetlands, infiltration devices, catch basins, oil/water separators, and biofiltration swales. An engineered or natural dispersion area that is dedicated to stormwater use is also considered a stormwater facility for purposes of this Program.

19.150.765 Structure: a permanent or temporary edifice or building, or any piece of work artificially built or composed of parts joined together in some definite manner, whether installed on, above, or below the surface of the ground or water, except vessels.

19.150.770 Substantial Development: any development of which the total cost or fair market value exceeds five thousand dollars, or any development which materially interferes with the normal public use of the water or shorelines of the state. The dollar threshold must be adjusted for inflation every five years, as defined in WAC 173-27-040(2). On September 15, 2017, the amount was increased to seven thousand and forty-seven dollars (\$7,047).

19.150.775 Substantial Development Permit: a permit for any substantial development.

19.150.780 Transportation: systems for automobiles, public transportation, pedestrians, and bicycles. This includes, but is not limited to, roads, parking facilities, bridges, sidewalks and railroads.

19.150.785 Urban Growth Area (UGA): those areas designated by Thurston County pursuant to RCW 36.70A.110 for urban development.

19.150.790 Use: the end to which a land or water area is ultimately employed.

19.150.795 Utilities: services and facilities that produce, convey, store or process electric power, gas, sewage, water, communications, oil, stormwater, and waste. This includes drainage conveyances and swales.

19.150.800 Variance: granting relief from specific bulk, dimensional or performance standards set forth in this Master Program and not a means to vary a use of a shoreline.

19.150.805 Vascular Plants: all seed-bearing plants that have vascular tissue (xylem and phloem).

19.150.810 Vegetation, Native: Vegetation comprised of plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site. Examples include, but are not limited to, trees such as Douglas Fir, western hemlock, western red cedar, alder, big-leaf maple, and vine maple; shrubs such as willow, elderberry, salmonberry, and salal; and herbaceous plants such as sword fern, foam flower, and fireweed.

19.150.815 WAC: Washington Administrative Code.

19.150.817 Watercraft: includes (but not limited to) kayaks, canoes, paddle boards, boats, floats, and other personal water craft used for water enjoyment.

19.150.820 Water-Dependent Use: a use or portion of a use that cannot exist in a location that is not adjacent to the water and that is dependent on the water by reason of the intrinsic nature of its operations.

19.150.825 Water-Enjoyment Use: a recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and which through location, design, and operation ensures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

19.150.830 Water-Oriented Use: a use that is water dependent, water-related, or water-enjoyment, or a combination of such uses.

19.150.835 Water-Related Use: a use or portion of a use that is not intrinsically dependent on a waterfront location, but whose economic viability is dependent upon a waterfront location because:

- A. The use has a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water; or
- B. The use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers makes its services less expensive and/or more convenient.

19.150.840 Weir: a structure that impounds, diverts or uses water for hydraulic generation and transmission, flood control, irrigation, water supply, recreational or fisheries enhancement.

19.150.845 Wetlands: areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands.

Chapter 19.200 Shoreline Jurisdiction and Environment Designation

19.200.100 Shoreline Jurisdiction

- A. The Shoreline Master Program jurisdiction applies to all shorelines of the state in Thurston County and their associated shorelands. This includes:
1. All marine waters;
 2. Rivers and streams with more than 20 cubic feet per second (cfs) mean annual flow;
 3. Lakes and reservoirs 20 acres and greater in area;
 4. Associated wetlands to 1 thru 3 above;
 5. The frequently flooded areas adjacent to these waterbodies listed in 1 thru 3 above, typically within 200 feet of the ordinary high water mark (OHWM);
 6. Buffers necessary to protect critical areas that are located within shoreline jurisdiction as described in this program.
 7. Shorelands associated with the shoreline waterbodies listed above.
- B. Associated estuarine wetlands: the jurisdictional boundary shall extend 200 feet landward of the delineated edge of the wetland.
- C. Associated wetlands that extend greater than 200 feet landward of the OHWM of the shoreline: the jurisdictional boundary shall extend to the delineated edge of the wetland.
- D. Critical areas designated pursuant to Chapter 36.70A RCW and located within shoreline jurisdiction shall be subject to the regulations of this Program.
- E. Areas and uses in those areas that are under exclusive federal jurisdiction as established through federal or state statutes are not subject to the jurisdiction of chapter 90.58 RCW.

19.200.105 Shorelines of Statewide Significance

A. Designation

The Shoreline Management Act designates certain shoreline areas as shorelines of statewide significance. Shorelines thus designated are important to the entire state. Because these shorelines are major resources from which all people of the state derive benefit, the statewide interest should be recognized and protected over the local interest.

Those areas that have been designated as shorelines of statewide significance (RCW 90.58.030) in Thurston County are:

1. *Puget Sound* - those areas lying seaward from the line of extreme low tide.

2. *Nisqually Delta* - From DeWolf Bight to Thurston County line, from the line of extreme low tide to the OHWM.
3. *Chehalis River* - From Lewis-Thurston County line downstream to the Thurston-Grays Harbor County line, excluding all federal lands. The flow exceeds 1,000 cubic feet per second (cfs) mean annual flow (MAF) at Lewis County line.
4. *Nisqually River* - From the Pierce-Thurston County line in Alder Reservoir downstream along left shore only, (exclude area from LaGrande Dam downstream to powerhouse due to use of aqueduct; also exclude all federal lands) to the Nisqually Indian Reservation boundary. The flow exceeds 1,000 cfs MAF at Pierce County line in Alder Reservoir.
5. *Alder Lake* – That portion of the lake from the Pierce County line up to the OHWM.
6. Shorelands and wetlands associated with 2 through 5 above.

19.200.107 Shoreline Waterbodies to be Regulated by This Program

The following are a list of shorelines to be regulated under the Program.

- A. Marine shorelines. All marine shorelines and waters of Puget Sound within Thurston County's geographical borders that are subject to the jurisdiction of Thurston County Government.
- B. Table 19.200.107(A) includes streams which are subject to this Program, based on shoreline jurisdiction criteria located in Section 19.200.100.

Table 19.200.107(A). Streams subject to the Thurston County Shoreline Master Program

Water Resource Inventory Area	Stream Name
11 - Nisqually	McAllister Creek
	Nisqually River
13 - Deschutes	Black Lake Ditch
	Deschutes River
	Little Deschutes River
	McLane Creek
	Mitchell Creek
	Spurgeon Creek

	Reichel Creek
	Woodland Creek
14 – Kennedy Goldsborough	Kennedy Creek
23 – Upper Chehalis	Beaver Creek
	Black River
	Chehalis River
	Dempsey Creek
	Johnson Creek
	Mima Creek
	Porter Creek
	Salmon Creek
	Scatter Creek
	Sherman Creek
	Skookumchuck River
	Thompson Creek
	Waddell Creek

- C. Table 19.200.107(B) includes lakes which are subject to this Program, based on shoreline jurisdiction criteria located in Section 19.200.100.

Table 19.200.107(B). Lakes subject to the Thurston County Shoreline Master Program

Water Resource Inventory Area	Stream Name
11 – Nisqually	Alder Lake
	Bald Hill Lake
	Clear Lake
	Elbow Lake
	Flanders Lake
	Inman/Gehrke Lake
	Lake St. Clair

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	Unnamed Lake 3
13 - Deschutes	Bigelow Lake
	Hewitt Lake
	Lake Lawrence
	Long Lake
	McIntosh Lake
	Munn Lake
	Offut Lake
	Pattison Lake
	Reichel Lake
	Shincke Lake
	Southwick Lake
	Sunwood Lake
	Tempo Lake
	Trosper Lake
	Unnamed Lake 1
	Ward Lake
14 – Kennedy Goldsborough	Unnamed Pond 1
	Unnamed Pond 2
	Summit Lake
23 – Upper Chehalis	Deep Lake
	Pitman Lake
	Scott Lake
	Black Lake
	Unnamed Lake 2
	Unnamed Lake 4
	Unnamed Lake 5
	Unnamed Lake 6

	Unnamed Mine 1
	Unnamed Mine 2
	Unnamed Mine 3
	Unnamed Pond 3
	Unnamed Pond 4
	Skookumchuck Lake

19.200.110 Shoreline Environment Designations

In order to plan and manage shoreline resources effectively and to provide a uniform basis for applying policies and regulations within distinctively different shoreline areas, a system of categorizing shoreline areas is necessary. Under the following system, shoreline environment designations are given to specific areas based on the existing development pattern, the biophysical capabilities and limitations of the shoreline being considered for development, the provisions of WAC 173-26-211 and the goals and aspirations of the citizens of Thurston County as expressed in the Comprehensive Plan. The existing development pattern and the biophysical information of the shoreline was compiled in a *Thurston County Shoreline Master Program Update Inventory and Characterization Report* (Thurston County 2013) and was included as the basis for the environment designations.

Environment designation assignment to shoreline reaches must assure the protection of existing shoreline ecological functions with the proposed pattern and intensity of development as well as be consistent with policies for restoration of degraded shorelines [WAC 173-26-211 (4) (b)].

Thurston County is using five of the six Ecology recommended Shoreline Environment Designations (SED's) and criteria consistent with Ecology's provided criteria for each of the environment designations: Aquatic, Natural, Urban Conservancy, Rural Conservancy, and Shoreline Residential [WAC 173-26-211(5)]. Thurston County does not have any "High Intensity" shorelines within its jurisdiction (*Shoreline and Environmental Designations Report*, Thurston County 2013). A map of the environment designations can be found in Appendix A.

This Program is designed to encourage, in each environment, uses which enhance the character of that environment. At the same time, the Program imposes reasonable standards and restrictions on development so that such development does not disrupt or destroy the character of the environment or result in a net loss of shoreline ecological functions.

The shoreline environment designations are not intended to be land-use designations. They do not imply development densities, nor are they intended to mirror the Comprehensive Plan designations. The system of categorizing shoreline environment designations is derived from Chapter 173-26 WAC.

The basic intent of this system is to utilize performance standards that regulate activities in accordance with goals and objectives defined locally rather than to exclude any use from any one environment. Thus, the particular use or type of developments placed in each environment must be designed and located so that there are no effects detrimental to achieving the objectives of the shoreline environment designations and local development criteria.

This approach provides an “umbrella” environment class over local planning and zoning on the shorelines. Since every area is endowed with different resources, has different intensities of development and attaches different social values to these physical and economic characteristics, the environment designations should not be regarded as a substitute for local planning and land-use regulations.

19.200.115 Shoreline Residential

- A. Purpose. To accommodate residential development and appurtenant structures that are consistent with this Program, and to provide appropriate public access and recreational uses.
- B. Designation Criteria.
 - 1. Does not meet the criteria for the Natural or Rural Conservancy Environments.
 - 2. Predominantly single-family or multifamily residential development or are planned and platted for residential development.
 - 3. Majority of the lot area is within the shoreline jurisdiction.
 - 4. Ecological functions have been impacted by more intense modification and use.
- C. Management Policies.
 - 1. Standards for buffers, shoreline stabilization, vegetation conservation, critical area protection, and water quality should result in assuring no net loss of shoreline ecological functions.
 - 2. Multi-family and multi-lot residential and recreational developments should provide public access and joint use for community recreational facilities. If public access is not feasible on site, off-site options should be considered.
 - 3. Access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.
 - 4. Commercial development should be limited to water-oriented uses.

19.200.120 Urban Conservancy

- A. Purpose. To protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses.
- B. Designation Criteria. Shoreline areas within UGAs or LAMIRDs that are appropriate and planned for development that is compatible with maintaining or restoring of the ecological functions of the area and generally are not suitable for water-dependent uses. Such areas must also have any of the following characteristics:
 - 1. Area suitable for low-intensity water-related or water-enjoyment uses without significant adverse impacts to shoreline functions or processes;
 - 2. Open space, floodplain or other sensitive areas that should not be more intensively developed or used to support resource-based uses;
 - 3. Potential for ecological restoration;
 - 4. Retains important ecological functions, even though partially developed; or
 - 5. Potential for development that is compatible with ecological restoration or Low Impact Development techniques that maintain ecological functions.

6. Does not meet the designation criteria for the Natural Environment.
7. Land having any of the above characteristics and currently supporting residential development.
8. Land having any of the above characteristics and into which a UGA boundary is expanded.

C. Management Policies.

1. Uses that preserve the natural character of the area or promote preservation of open space, floodplain or other sensitive lands either directly or over the long term should be the primary allowed uses. Uses that result in restoration or preservation of ecological functions should be allowed if the use is otherwise compatible with the purpose of the environment and the setting.
2. Standards included in this SMP for shoreline stabilization measures, vegetation conservation, water quality, and shoreline modifications shall ensure that new development does not result in a net loss of shoreline ecological functions, or further degrade other shoreline values.
3. Public access and public recreation objectives should be implemented whenever feasible and any associated ecological impacts can be mitigated.
4. Water-oriented uses should be given priority over non-water oriented uses. For shoreline areas adjacent to commercially navigable waters, water-dependent uses should be given highest priority.
5. Any development in the Urban Conservancy designation should implement Low Impact Development techniques, if feasible, in order to maintain ecological functions.

19.200.125 Rural Conservancy

- A. Purpose. To protect ecological functions, conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use, achieve natural flood plain processes, and provide recreational opportunities.
- B. Designation Criteria. Shorelines outside the UGA or LAMIRD that have one or more of the following characteristics:
 1. Currently support lower-intensity resource-based uses, such as agriculture, aquaculture, forestry, or recreational uses, or are designated agriculture or forest lands;
 2. Currently accommodate residential uses but are subject to environmental limitations, such as properties that include or are adjacent to steep banks, feeder bluffs, or flood plains or other flood-prone areas;
 3. Can support low-intensity water-dependent uses without significant adverse impacts to shoreline functions or processes;
 4. Private and/or publicly owned lands (upland areas landward of OHWM) of high recreational value or with valuable historic or cultural resources or potential for public access;
 5. Does not meet the designation criteria for the Natural environment;
 6. Land designated Urban Conservancy and from which a UGA boundary is retracted may be designated as Rural Conservancy, if any of the above characteristics are present.
- C. Management Policies.

1. Uses should be limited to those which sustain the shoreline area's physical and biological resources, and those of a non-permanent nature that do not substantially degrade ecological functions or the rural or natural character of the shoreline area. Developments or uses that would substantially degrade or permanently deplete the physical and biological resources of the area should not be allowed.
2. New development should be designed and located to preclude the need for shoreline stabilization. New shoreline stabilization or flood control measures should be prohibited unless there is a documented need to protect an existing structure or ecological functions and mitigation is applied.
3. Residential development standards shall ensure no net loss of shoreline ecological functions and should preserve the existing character of the shoreline consistent with the purpose of the "Rural Conservancy" environment.
4. Low-intensity, water-oriented commercial uses may be permitted in the limited instances where those uses have been located in the past or at unique sites in rural communities that possess shoreline conditions and services to support the development.
5. Water-dependent and water-enjoyment recreation facilities that do not deplete the resource over time, such as boating facilities, angling, hunting, wildlife viewing trails and swimming beaches, are preferred uses, provided significant adverse impacts to the shoreline area are mitigated.
6. Agriculture, commercial forestry and aquaculture, when consistent with the Program, should be allowed.
7. Mining is a unique use as a result of its inherent linkage to geology. Therefore, mining and related activities may be an appropriate use within the rural conservancy environment when conducted in a manner consistent with the environment policies and the provisions of WAC 173-26-241 (3)(h) and when located consistent with mineral resource lands designation criteria pursuant to RCW 36.70A.170 and WAC 365-190-070.

19.200.130 Natural

- A. Purpose. To protect those shoreline areas that are relatively free of human influence, and/or that include intact or minimally degraded shoreline functions intolerant of human use. Only very low intensity uses are allowed in order to maintain the ecological functions and ecosystem-wide processes. Restoration of degraded shorelines should be planned within this environment.
- B. Designation Criteria. Shorelines having a unique asset or feature considered valuable for its natural or original condition that is relatively intolerant of intensive human use are assigned a "natural" shoreline designation. This includes shorelines both in and out of the UGA or LAMIRD when any of the following characteristics apply:
 1. The shoreline is ecologically intact and currently performing an important, irreplaceable function or ecosystem-wide process that would be damaged by human activity; or
 2. The shoreline is considered to represent ecosystems and geologic types that are of scientific and educational interest;
 3. The shoreline is unable to support new development or uses without adverse impacts to ecological functions or risk to human safety.
 4. The shoreline includes largely undisturbed portions of shoreline areas such as wetlands, estuaries, unstable bluffs, coastal dunes, spits, and ecologically intact shoreline habitats.
 5. Retain the majority of their natural shoreline functions, as evidenced by shoreline configuration and the presence of native vegetation.
 6. Generally free of structural shoreline modifications, structures, and intensive human uses.

C. Management Policies.

1. Any use that would substantially degrade or result in a net loss of ecological functions or natural character of the shoreline area should not be allowed. The following new uses should not be allowed: commercial, industrial and non-water-oriented recreation.
2. Any alteration should be designed with low impact development methods, or be capable of restoration to the natural condition, where feasible. New development or significant vegetation removal that would reduce the capability of vegetation to perform normal ecological functions should not be allowed.
3. Single-family residences, roads, parking areas and utility corridors may be allowed as a conditional use only if they cannot be located outside the Natural Designation or shoreline jurisdiction, provided that the density and intensity of such use is limited to protect ecological functions and is consistent with the purpose of the designation.
4. Low-intensity, water-oriented recreational access, scientific, historical, cultural, educational research uses may be allowed provided that no significant ecological impact on the area will result.

19.200.135 Aquatic

A. Purpose. To protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high-water mark (OHWM).

B. Designation Criteria. Lands waterward of the OHWM, which include tidelands, bedlands, and lands beneath shorelines of the state (may also include wetlands), and shorelines of statewide significance are assigned an “aquatic” shoreline designation.

C. Management Policies.

1. New over-water structures and development should be allowed only for water-dependent uses, public access or ecological restoration, and when:
 - a. They do not preclude attainment of ecological restoration; and
 - b. The size of the new over-water structure is limited to the minimum necessary to support the structure’s intended use; and
 - c. In order to reduce the impacts of shoreline development and increase effective use of water resources, multiple use of over-water facilities should be encouraged; and
 - d. The structure or uses on navigable waters and their beds should be located and designed to minimize interference with surface navigation, to consider impacts to public views, to allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration and to ensure that the project does not conflict with existing water dependent uses; and
 - e. The use or modification is designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.
2. Joint use or community dock facilities should be utilized rather than single-use facilities when new over-water development is proposed in association with two or more residential units.
3. Development should be compatible with the adjoining upland designation.
4. Existing over-water residences may continue through normal maintenance and repair, but should not be enlarged or expanded. New over-water residences should be prohibited.

5. Applicants for any use or modification should schedule a staff consultation to review the site conditions, and potential habitats and species. This consultation should result in a general understanding of applicable development standards for the proposal.
6. Uses that adversely impact the ecological functions of critical saltwater and freshwater habitats should not be allowed except where necessary to achieve the objectives of RCW 90.58.020, and then only when their impacts are mitigated according to the sequence described in WAC 173-26-201 (2)(e) as necessary to assure no net loss of ecological functions.
7. Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.
8. Local governments should reserve shoreline space for shoreline preferred uses. Such planning should consider upland and in-water uses, water quality, navigation, presence of aquatic vegetation, existing shellfish protection districts and critical habitats, aesthetics, public access and views.

19.200.140 Official Shoreline Map

- A. As part of this Program, there is one official Thurston County Shoreline Environment Designations Map, which shall be in the custody of the Department of Community Planning and Economic Development and available for public inspection during normal business hours and on the Thurston County website. Unofficial copies of the official map or portions thereof may be included or distributed with copies of this Program (see Appendix A).
- B. The purpose of the official Shoreline Environment Designations Map is to depict graphically those areas of Thurston County falling under the jurisdiction of this Program, and the shoreline environment designations of those areas. The map of shoreline jurisdiction is based on geographic features and lot lines/boundaries as depicted at the time of SMP adoption. Shoreline jurisdiction as shown is approximate and for planning purposes only. The official extent of shoreline jurisdiction is determined at the time of project review.

19.200.145 Map Boundaries and Errors

- A. Mapping Boundaries. Where the exact location of a jurisdiction or environment designation boundary line is uncertain, the official Shoreline Environment Designations Map and field observations will be used to determine the location of the boundary line. When resorting to the Shoreline Environment Designations Map does not resolve the conflict, the following rules will apply:
 1. Boundaries indicated as approximately following the center lines of streets, highways, alleys or other roadways shall be construed to follow such center lines;
 2. Boundaries indicated as approximately following lot, fractional section or other subdivision lines shall be construed as following such subdivision lines;
 3. Boundaries indicated as approximately following any lines of corporate limits or other local government jurisdictional lines shall be construed as following such lines;
 4. Boundaries indicated as following railroad lines shall be construed as following the center line of the railroad right-of-way;
 5. Boundaries indicated as parallel to or extensions of features identified in subsections 1. through 4. above shall be so construed;
 6. Boundaries between parallel environment designations shall be construed as the top of the bluff or vegetation line that distinguishes existing development from the critical area abutting the shoreline;

7. When not specifically indicated on the Shoreline Environment Designations Map, distances shall be determined by the scale of the map;
 8. Where existing physical or cultural features differ from those shown on the Shoreline Environment Designations Map and cannot be determined with certainty by applying subsections one through six above, the Director shall determine the location or existence of such feature utilizing the provisions of WAC 173-26-211, the policies of RCW 90.58.020, TCC 24.01.040, and the corresponding Master Program provisions herein; and
 9. Where a parcel within the shoreline jurisdiction is separated from the water by an existing developed road or an additional parcel that serves to create a distinct break in connectivity to the shoreline, the parcel on the landward side may not be required to meet certain development regulations for that designation (such as public access, water-oriented use, or vegetation conservation standards), provided all other applicable provisions of this Program are met, including no net loss of shoreline ecological functions.
- B. Mapping Errors. Some mapping errors may be corrected prior to a Master Program amendment to assign the appropriate designation to that area by the following methods. Thurston County GeoData will be consulted on which manner of updating maps is appropriate for internal consistency:
1. The common boundary descriptions and the criteria in RCW 90.58.030(2) and Chapter 173-22 WAC supersede the map when there are mapping error conflicts, other than those with a solution provided in this section.
 2. In the event that a jurisdictional area is not mapped, it will automatically be assigned a “Rural Conservancy” or “Urban Conservancy” designation depending on its location outside or inside of a UGA or LAMIRD. Such designation will apply until a Master Program amendment is approved that assigns the appropriate designation to the subject area.
 3. In the event that a parcel was inadvertently assigned more than one designation, the more protective designation shall apply until the correct determination can be made.
 4. In the event that a parcel on the boundary between two designations appears to be a mapping error based on the criteria in this section, the County shall apply the most appropriate of the two designations, until such time as the map can be formally corrected consistent with WAC 173-26-100 and Section 19.500.105(I) (Shoreline Master Program Amendment).
 5. In the event of an environment designation mapping error where the Master Program update or amendment record, including the public hearing process, is unclear in terms of the correct environment designation to apply to a property, the County shall apply the environment designation approved through the Master Program Update or Amendment process and correct the map, following consultation with Thurston County GeoData.
 6. If the environment designation criteria were misapplied, but the update or amendment record, including the public hearing process, does not clearly show that a different designation was intended to be shown on the map, a Master Program amendment may be obtained consistent with WAC 173-26-100 and Section 19.500.105(I) (Shoreline Master Program Amendment). This process is intended to allow for reasonable corrections to the Shoreline Environment Designation process. Such process shall include early consultation with the Department of Ecology and other agencies with jurisdiction, affected tribes, and appropriate public notification prior to local approval. Current designations are reflected in the Shoreline Environment Designations Map (Appendix A).

Chapter 19.300 General Goals and Policies

19.300.050 Applicability

- A. The general goals and policies of this chapter apply to all use and development activities within the Program's jurisdiction, regardless of environment designation. As provided in WAC 173-26-191, these policies are the basis for regulations that govern use and development along the shoreline. Some Program policies may not be fully achievable by regulatory means, but may be pursued by other means as provided in RCW 90.58.240.
- B. Regulation of administrative actions contained herein must be implemented with consideration to the Public Trust Doctrine, regulatory takings, and other applicable legal principles as appropriate.

19.300.100 Shorelines of Statewide Significance

Goal: To ensure that the statewide interest is recognized and protected over the local interest in shorelines of statewide significance, the County shall review all development proposals within shorelines of statewide significance for consistency with RCW 90.58.020 and the following policies (in order of preference):

- A. Policy SH-1 Recognize and protect the statewide interest over local interest.
 - 1. The Washington Departments of Fish and Wildlife and Ecology, affected tribes, other resources agencies, and interest groups should be consulted for development proposals that could affect anadromous fisheries or other priority species or habitats.
 - 2. Recognize and take into account state agencies' policies, programs and recommendations in developing and administering use regulations.
- B. Policy SH-2 Preserve the natural character of the shoreline.
 - 1. Administer shoreline environments and regulations to avoid and minimize damage to the unique character and ecology of shorelines of statewide significance.
 - 2. Where natural resources of statewide importance are being diminished over time by human activities, restoration of those resources should be facilitated.
 - 3. In order to reduce adverse impacts to the environment while accommodating future growth, new intensive development activities should upgrade and redevelop those areas where intensive development already occurs, rather than allowing high intensity uses to extend into low intensity use or underdeveloped areas.
- C. Policy SH-3 Result in the long term over short term benefit.

1. Preserve sufficient shorelands and submerged lands to accommodate current and projected demand for economic resources, such as shellfish beds and navigable harbors.
2. Severely limit actions that would convert resources into irreversible uses or detrimentally alter natural conditions that are characteristic of shorelines of statewide significance.
3. Evaluate the short-term economic gain or convenience of developments in relationship to long-term and potentially costly impairments to the natural environment.
4. Actively promote aesthetic considerations when contemplating new development, redevelopment of existing facilities, or for the general enhancement of shoreline areas.
5. Actively support programs which recognize the stewardship role of shoreline owners and promote their voluntary management of their shorelines.

D. Policy SH-4 Protect the resources and ecology of the shoreline.

1. Projects shall consider incremental and cumulative impacts while ensuring no net loss of shoreline ecosystem processes and functions.
2. In order to ensure the long-term protection of ecological resources of statewide importance, activities impacting anadromous fish habitats, forage fish spawning and rearing areas, shellfish beds and other unique environments should be severely limited.
3. Public access should be limited where development would result in a loss of shoreline ecological functions, such as in priority or sensitive habitats.

E. Policy SH-5 Increase public access to publicly owned areas of the shorelines.

1. Preserve and encourage public access with special scenic or cultural qualities.
2. Enabling trail access to public shorelines is a priority of this Program. Partner with other agencies and entities to prioritize developing unpaved, pervious paths and trails to shoreline areas and linear access along the shorelines, where appropriate.
3. Locate development, including parking, as far inland from the OHWM as is feasible so that access is enhanced.

F. Policy SH-6 Increase recreational opportunities for the public in the shoreline.

1. Public access and recreation requirements should take into account the activities of state agencies and the interests of the citizens of the state to visit public shorelines.

2. Plan for and encourage recreational opportunities use of the shorelines, but reserve areas for lodging and related facilities on uplands well away from the shoreline, with provisions for non-motorized access to the shorelines.

19.300.105 Critical Areas and Ecological Protection

Goal: Protect and conserve shoreline natural resources, including protection of critical areas (Title 24 TCC, as referenced in 19.400.115), while accommodating reasonable and appropriate uses which will assure, at a minimum, no net loss to shoreline ecological functions and processes.

- A. Policy SH-7 Protect and conserve shoreline areas that are ecologically intact and minimally developed or degraded. Develop incentives and regulations for privately owned shorelines that will protect and conserve these areas while allowing reasonable and appropriate development.
- B. Policy SH-8 Recognize that nearly all shorelines, even substantially developed or degraded areas, retain important ecological functions.
- C. Policy SH-9 Utilize transfer of development rights as allowed by Chapter 20.62 TCC, or as now or hereafter amended, as an option to protect ecological functions.
- D. Policy SH-10 Permitted uses and developments should be designed and conducted in a manner that protects the current ecological condition, and prevents or mitigates adverse impacts. In order to reduce the amount of plastic debris entering water bodies in Thurston County, permitted uses and developments are encouraged to limit the use of plastics. Mitigation measures shall be applied in the following sequence of steps listed in order of priority:
 1. Avoid the impact altogether by not taking a certain action or parts of an action;
 2. Minimize impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;
 3. Rectify the impact by repairing, rehabilitating or restoring the affected environment;
 4. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action;
 5. Compensate for the impact by replacing, enhancing, or providing substitute resources or environments, including utilization of the in-lieu-fee process where appropriate; and
 6. Monitor the impact and the mitigation projects and take appropriate corrective measures.
- E. Policy SH-11 Shoreline ecological functions that should be protected include, but are not limited to:
 1. Habitat (space or conditions for reproduction; resting, hiding and migration; and food production and delivery);

2. Water quality maintenance; and
3. Water quantity maintenance.

F. Policy SH-13 In assessing the potential for new uses and developments to impact ecological functions and processes, the following should be taken into account:

1. On-site and off-site impacts;
2. Immediate and long-term impacts;
3. Cumulative impacts, from both current and reasonably foreseeable future actions, resulting from the project; and
4. Any mitigation measures or beneficial effects of established regulatory programs to offset impacts.

G. Policy SH-14 Critical areas in the shoreline jurisdiction shall be protected in a manner that results in no net loss to shoreline ecological functions. Pursuant to RCW 36.70A.030(5) and 24.01.020 TCC, critical areas include:

1. Critical Aquifer Recharge Areas
2. Fish and Wildlife Habitat Conservation Areas
3. Frequently Flooded Areas
4. Geologically Hazardous Areas
5. Wetlands

19.300.110 Vegetation Conservation

Goal: Conserve, protect and restore native shoreline vegetation to provide for ecological and habitat functions as well as human health and safety. These functions include, but are not limited to, shading of the nearshore, food and shelter for terrestrial and aquatic organisms, and slope/soil stabilization.

A. Policy SH-15 Preserve native plant communities on marine, river, lake and wetland shorelines. In order to maintain shoreline ecological functions and processes, development along the shoreline should result in minimal direct, indirect, or cumulative impacts. This includes:

1. Keeping overhanging vegetation intact along the shoreline edge to provide shading and other ecological functions;
2. Preserving established areas of native plants and minimizing clearing and grading near bluff edges and other erosion or landslide-prone areas in order to maintain slope stability and prevent excess surface erosion and stormwater runoff; and
3. Designing and placing structures and associated development in areas that avoid disturbance of established native plants, especially trees and shrubs; and
4. Removal of noxious weeds in accordance with WAC 16-750-020.
5. Herbicides and insecticides should only be used to respond to non-native pests and invasive vegetation infestations.

B. Policy SH-16 Shoreline landowners are encouraged to preserve and enhance native woody vegetation and native groundcovers to stabilize soils and provide habitat. When

shoreline uses or modifications require a planting plan, maintaining native plant communities, replacing noxious weeds and avoiding installation of ornamental plants are preferred. Unless approved by the Director or their designee, non-native vegetation is prohibited within critical areas, their buffers, and associated setbacks.

- C. Policy SH-17 Maintaining native or ecologically functional vegetation is preferred over clearing to provide views or lawns. Limited and selective clearing may be allowed when slope stability and ecological functions are not compromised. Limited trimming and pruning is preferred over removal of native vegetation.

19.300.115 Water Quality and Quantity

Goal: Provide regulations and voluntary incentives to encourage practices which protect water quality and reduce stormwater runoff and erosion in order to protect against adverse impacts to the public health, to the land and its vegetation and wildlife, and to the waters of the state and its aquatic life.

- A. Policy SH-18 Shoreline use and development should minimize impacts that contaminate surface or ground water, cause adverse effects on shoreline ecological functions, or impact aesthetic qualities and recreational opportunities, including but not limited to, healthy shellfish harvest, swimming, and boating.
- B. Policy SH-19 Ensure mutual consistency with other regulations that address water quality and stormwater quantity, including standards as provided for in TCCTitle 15.05 (Thurston County Storm Water Standards) and Chapter 173-201A WAC (Water Quality Standards).
- C. Policy SH-20 Utilize pervious materials and other appropriate low impact development techniques where soils and geologic conditions are suitable and where such practices will reduce stormwater runoff.
- D. Policy SH-21 All shoreline use and development shall be conducted in accordance with Chapter 24.20 TCC (Frequently Flooded Areas). The subdivision of land should not be established when it would be reasonably foreseeable that the development or use would require structural flood hazard reduction measures within the channel migration zone or floodway. When evaluating alternate flood control measures or floodplain restoration opportunities, consider the removal or relocation of structures in flood-prone areas.
- E. Policy SH-21.5 Promote the use of and participation in voluntary incentive programs to protect water quality, such as the Thurston County Shore Friendly program, Stream Team initiatives, Thurston County Environmental Health water quality programs, Thurston County Conservation Futures and Open Space Tax Programs, Transfer of Development Rights program, and programs offered by Thurston Conservation District and others.
- F. Policy SH-21.6 Prevent the introduction of sediment in eutrophic lakes from wetland encroachment and shoreline erosion which accelerates the aging of these lakes, degrades water quality, impacts aesthetic qualities, recreational opportunities and causes adverse effects on the shoreline ecological function.

- G. Policy SH-21.7 Stormwater outfalls into the rivers, streams, lakes and marine environment should be eliminated and diverted into settling ponds to reduce organics, harmful chemicals and waste from entering these water bodies and degrading water quality and contributing to algae growth.

19.300.120 Economic Development

Goal: Provide for the location and design of industries, transportation, port and tourist facilities, commerce and other developments that are particularly dependent upon a shoreline location and/or use, when the shoreline can accommodate such development.

- A. Policy SH-22 Accommodate and promote, in priority order, water-dependent, water-related and water-enjoyment economic development. Such development should occur in those areas already partially developed with similar uses consistent with this Program, areas already zoned for such uses consistent with the Thurston County Comprehensive Plan, or areas appropriate for water-oriented recreation.
- B. Policy SH-23 Water-oriented economic development, such as those aquaculture activities encouraged under the Washington Shellfish Initiative, should be encouraged and shall be carried out in such a way as to minimize adverse effects and mitigate unavoidable adverse impacts to achieve no net loss of shoreline ecological functions.

19.300.125 Historic, Archeological, Scientific, Cultural and Educational Resources

Goal: Protect shoreline features of historic, archaeological, cultural, scientific and educational value or significance through coordination and consultation with the appropriate local, state and federal authorities, affected Indian tribes, and property owners.

- A. Policy SH-24 Prevent damage or destruction of historic, archaeological, scientific, cultural and educational (HASCE) sites through coordinated identification, protection and management with the appropriate local, state and federal authorities and registrars, affected Indian tribes, and property owners.
- B. Policy SH-25 Provide opportunities for education and appreciation related to HASCE features where appropriate and where maximum protection of the resource can be achieved.

19.300.130 Shoreline Use and Site Planning

Goal: Preserve and develop shorelines in a manner that allows for an orderly balance of uses by considering the public and private use, along with the development of shorelines and adjacent land areas with respect to the general distribution, location and extent of such uses and development.

- A. Policy SH-25.5 Respect the rights of private property owners and the rights of citizens at large to use and enjoy shorelines of the state. Provide property owners with clear guidelines and requirements for future shoreline development and provide fair and reasonable allowances for the continued use and enjoyment of private property.
- B. Policy SH-26 For shoreline use and development activities, including plats and subdivisions at full build-out, employ innovative development features to achieve no net loss of ecological functions, such as sustainable and low impact development practices where appropriate.
- C. Policy SH-27 Give preference to water-dependent uses and single-family residential uses that are consistent with preservation of shoreline ecological functions and processes. Secondary preference should be given to water-related and water-enjoyment uses. Non-water-oriented uses should be limited to those locations where the above-described uses are inappropriate or where non-water-oriented uses demonstrably contribute to the objectives of the Act. For use preference within shorelines of statewide significance, see Section 19.300.100.
- D. Policy SH-28 Designate and maintain appropriate areas for protecting and restoring shoreline ecological functions and processes to control pollution and prevent damage to the shoreline environment and/or public health.
- E. Policy SH-29 Through appropriate site planning and use of the most current, accurate and complete scientific and technical information available, shoreline use and development should be located and designed to avoid the need for shoreline stabilization or actions that would result in a net loss of shoreline ecological functions.
- F. Policy SH-30 Aquaculture is of statewide interest. Properly managed, it can result in long-term, over short-term, benefit and can protect the resources and ecology of the shoreline. Aquaculture is dependent on the use of the water area and, when consistent with the control of pollution and prevention of damage to the environment, is a preferred use of the water area.
- G. Policy SH-31 Potential locations for aquaculture activities are relatively restricted by water quality, temperature, dissolved oxygen content, currents, adjacent land use, wind protection, commercial navigation, and salinity. The technology associated with some forms of aquaculture is still experimental and in formative states. Therefore, some latitude should be given when implementing the regulations of this section, provided that potential impacts on existing uses and shoreline ecological functions and processes should be given due consideration. However, experimental aquaculture projects in water bodies should include conditions for adaptive management. Experimental aquaculture means an aquaculture activity that uses methods or technologies that are unprecedented or unproven in Washington.
- H. Policy SH-32 Aquaculture activities should be located, designed and operated in a manner that supports long-term beneficial use of the shoreline and protects and maintains shoreline ecological functions and processes.
- I. Policy SH-33 Aquaculture should not be permitted where it would result in a net loss of shoreline ecological functions and processes, adversely impact eelgrass and macroalgae, or significantly conflict with navigation and other water-dependent uses. Aquaculture is not required to protect state-listed noxious weed species when control methods are conducted within applicable agency standards. In general, the following preferences apply when considering new aquaculture activities:
 - 1. Projects should not negatively impact critical saltwater habitats.

2. Projects that involve little or no substrate modification.
 3. Projects that involve little or no supplemental food sources, pesticides, herbicides or antibiotic application.
- J. Policy SH-34 Aquaculture facilities should be designed and located to avoid:
- A. the spread of disease to native aquatic life;
 - B. the establishment of new non-native species; and
 - C. significant impact to the aesthetic qualities of the shoreline.
- K. Policy SH-35 Upland uses and modifications should be properly managed to avoid degradation of water quality of existing shellfish areas.
- L. Policy SH-36 Planting and harvesting by boat shall be preferred over low-tide harvest methods where feasible.
- M. Policy SH-37 Non-commercial or small scale aquaculture projects should be encouraged through the shoreline exemption process [Section 19.500.100(C)].
- N. Policy SH-38 In order to facilitate more conforming uses in the shoreline environment provide an administrative Type I permit option to permit reconstruction or remodels of non-conforming structures that propose to make the structures and uses more conforming using innovative design techniques and/or by moving structures further landward of critical areas, their buffers and setbacks or, to the maximum extent possible, remove the structures completely from critical areas, their buffers, and setbacks.

19.300.135 Public Access and Recreation

Goal: Provide physical and visual public access opportunities and space for diverse forms of water-oriented recreation in such a way that private property rights, public safety, and shoreline ecological functions and processes are balanced and protected in accordance with existing laws and statutes.

- A. Policy SH-39 Protect the public's opportunity to enjoy the physical and visual qualities of the shoreline by balancing shoreline use and development in such a way that minimizes interference with the public's use or enjoyment of the water while protecting private property rights. This may be achieved through regulatory provisions, incentives or other cooperative agreements.
- B. Policy SH-40 Evaluate site-appropriate types and methods of required public access when reviewing all public shoreline development projects and private subdivision of land into more than four parcels. Based on project-specific circumstances, this may include physical or visual access on or off site.
- C. Policy SH-41 Acquire, maintain and improve diverse physical and visual shoreline access through public and private efforts. This should be accomplished in a comprehensive and prioritized manner through the use of existing plans and programs, including those that address population growth and shoreline access demands such as the Thurston County Comprehensive Plan, the Thurston County Parks, Recreation, Trails and Natural Resource Preserve Plan (2013) Plan, and other port and state park plans.

- D. Policy SH- 42 Publically owned, undeveloped road-ends, tax-title lands and right-of-ways adjacent to salt and freshwater shorelines should be evaluated for use as public access points. These lands may be developed for access by a community organization, consistent with Chapter 13.56 TCC as now or hereafter amended.
- E. Policy SH-43 Use shoreline public access points to enhance the public’s understanding and appreciation of shoreline ecology, cultural history, maritime heritage, and location specific rules and boundaries by incorporating educational and interpretive signage and other tools into public access facilities.
- F. Policy SH-44 Encourage linkage of shoreline parks, upland recreation opportunities and water-oriented opportunities.
- G. Policy SH-45 Encourage the acquisition of public shoreline recreational lands through a variety of means including fee purchase, acquisition of easements, options, development rights, and Conservation Futures.
- H. Policy SH-46 Encourage coordination between public agencies, land owners, non-profit organizations, land trusts, private developers, and others in their plans and activities to provide a wide variety of recreational opportunities on public shorelines.

19.300.140 Restoration and Enhancement

Goal: Re-establish, rehabilitate and enhance or otherwise improve impaired shoreline ecological functions and processes through voluntary and incentive-based public and private programs and actions that are consistent with the *Shoreline Restoration Plan* (Appendix C). (Note: this section does not address required mitigation sequencing related to specific development proposals; see Section 19.400.110(A) for mitigation standards.)

- A. Policy SH-47 Integrate and facilitate voluntary and incentive-based cooperative restoration and enhancement programs between local, state, and federal public agencies, tribes, non-profit organizations, and landowners to address shorelines with impaired ecological functions and/or processes.
- B. Policy SH-48 Identify restoration opportunities through sources such as the *Thurston County Shoreline Master Program Update Inventory and Characterization Report*, salmon recovery plans, local watershed plans, Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), and the Salmon Recovery Lead Entity Habitat Work Schedule, and authorize, coordinate and facilitate appropriate publicly and privately initiated restoration projects. This shall be accomplished through the *Shoreline Restoration Plan* (Appendix C), which addresses the following:
 1. Identification of degraded areas and sites with potential for ecological restoration;
 2. Restoration goals and priorities;
 3. Existing and on-going projects and programs;
 4. Additional projects and programs to achieve the restoration goals;
 5. Funding sources, timelines and benchmarks for implementation; and

6. Monitoring effectiveness of restoration projects.

C. Policy SH-49 Encourage and facilitate restoration and enhancement projects for Priority Habitats and Species (Washington Department of Fish and Wildlife, PHS Program).

D. Policy SH-50 Shoreline ecosystem protection and restoration projects shall be prioritized, located and designed utilizing the most current, accurate and complete scientific and technical information available to promote resiliency of habitats and species.

19.300.145 Transportation and Utilities

Goal: Plan, locate and design transportation systems and essential utility facilities in shoreline areas where they will have the least possible adverse effect on shoreline ecological functions and/or processes and existing or planned water-dependent uses.

- A. Policy SH-51 Plan, locate and design proposed transportation, parking facilities, and utility facilities where routes will avoid a net loss of shoreline ecological functions or will not adversely impact existing or planned water-dependent uses.
- B. Policy SH-52 Parking facilities in shorelines are not a preferred use. Such facilities should only be allowed as necessary to support an authorized use and only when environmental and visual impacts are avoided and minimized.
- C. Policy SH-53 New or expanded transportation routes and essential utility facilities that cannot be located outside of shoreline jurisdiction should, to the extent feasible:
1. Be located in areas that do not require shoreline stabilization, dredging, extensive cut/fill and other forms of shoreline alteration;
 2. Be limited to local access and public shoreline access routes;
 3. Be located in existing rights of way and corridors.
- D. Policy SH-54 Transportation and utility projects should incorporate public access.
- E. Policy SH-55 When feasible, roads built within shoreline jurisdiction should provide for alternate modes of travel, including pedestrian, bicycle and public transportation, where appropriate.
- F. Policy SH-56 Maintenance of existing transportation corridors and utility facilities should be carried out in a manner that:
1. will avoid a net loss of shoreline ecological functions;
 2. mitigates for unavoidable impacts; and
 3. where feasible and appropriate, improves shoreline ecological functions.

19.300.150 South Puget Sound Policies

Goal: Work with the Alliance for a Healthy South Sound (AHSS) to incorporate the South Sound Strategy as a way to protect and conserve shoreline natural resources, including protection of critical areas (Title 24 TCC), while accommodating reasonable and appropriate shoreline development uses which will assure, at a minimum, no net loss to shoreline ecological functions and processes.

- A. Policy SH-57 Thurston County recognizes that South Puget Sound includes unique and significant marine and freshwater resources. As such, Thurston County should work to minimize use conflicts, exercise responsibility toward the South Sound's resources, and require commitment to water-quality, and water-quantity preservation.
- B. Policy SH-58 In planning for the future development of South Puget Sound, the statewide interest should be protected over the local interest.
- C. Policy SH-59 The Alliance for a Healthy South Sound (AHSS) is a regional organization comprised of Thurston, Kitsap, Pierce and Mason County governments, and the Squaxin Island, Nisqually, and Puyallup tribes. The AHSS has been recognized by the State, including the Puget Sound Partnership, and the counties as having an important role in protecting, enhancing, and restoring the resources of South Puget Sound. As such, the AHSS has developed the South Sound Strategy, incorporated herein by reference, which should be consulted for guidance when reviewing new shoreline restoration projects in South Puget Sound.
- D. Policy SH-60 The public interest in South Puget Sound concerns the natural character and the future development. The scope of the public interest concerning the future development of South Puget Sound includes all residents of the state, tribes, the four county governments, and federal- and State-owned lands.

Chapter 19.400 General Regulations

19.400.100 Existing Development

When discussing lawfully established, existing development the term nonconforming is often used to describe a use or structure that was in compliance with codes at the time it was developed (or was developed before adoption of an applicable code) but no longer meets code requirements because of code updates. Nonconforming is not the same as illegal and is essentially “grandfathered” in relation to this Program. However, the term nonconforming is widely used in Thurston County Code and to maintain consistency “nonconforming” is the term used in this Program. Allowances to maintain nonconforming structures and uses are included in this Program and are described below.

Staff note: The Planning Commission is considering different options for labeling nonconforming structures, lots, and uses. Options that could be considered include the terms “nonconforming”, “legally nonconforming”, “legally existing”, “existing structure”, or “conforming”. The Commission is interested in public comment on this topic.

A. Existing Uses

1. Lawfully established uses occurring as of the effective date of this Program, which do not meet the standards of this Program, shall be considered nonconforming to this Program.
2. All lawfully established uses, both conforming and nonconforming, may continue and may be, maintained, expanded, or modified consistent with the Act and this Program.
3. Any change in use or newly proposed development shall conform to the standards of this Program and may require a Conditional Use Permit (CUP) in accordance with the findings in Section 19.500.100(D). A CUP may be granted only if no reasonable alternative use meeting the standards is practical, and the proposed use will be at least as consistent with the policies and provisions of this Program, the Act, and the uses in the area as the pre-existing use. Conditions may be imposed that are necessary to assure compliance with the above findings and with the requirements of this Program and the Act, to assure that the use will not become a nuisance or a hazard, and to assure that the use will not result in a net loss of the ecological function of the shoreline.
4. If a use is discontinued for twenty-four consecutive months or for twenty-four months during any four-year period, any subsequent use, if allowed, shall comply with the Act and this Program.

B. Existing Structures

1. Lawfully constructed structures
 - a. Legally established structures occurring as of the effective date of this Program, which do not meet the standards of this Program, shall be considered nonconforming to this Program, to include appurtenances as defined in 19.100.150.
 - b. All legally established **nonconforming** structures may continue and may be, remodeled, repaired or maintained in accordance with the Act, this Program, and Chapter 24.50 TCC.

- c. For structures located partially within the shoreline buffer or setback, alterations shall be limited to the addition of height up to 35 feet above finished grade and landward expansion into areas outside the shoreline setback.
 - d. For structures located entirely within the shoreline buffer or setbacks, alterations shall be allowed for the addition of height up to 35 feet above finished grade, or landward expansion the entire width of the structure, on the upland side of the structure, or both. Mitigation shall be required for any such expansions within the buffer. Structures may be expanded outside the shoreline buffer or setback, subject to other applicable provisions of Thurston County Code.
 - e. Interior and exterior remodels and the addition of upper stories are permitted. Except as provided above, such additions shall not extend beyond the existing or approved building footprint.
 - f. Any expansion of nonconforming structures that further encroach on the buffer or setback towards the Ordinary High Water Mark or expansion on either side of the existing structure shall require a shoreline variance.
 - g. Remodels, alterations, and reconstruction of structures which occur within the footprint of the existing structure shall not require a substantial development permit provided the site does not pose any human health and safety issues, the project does not result in increased detrimental impacts to the shoreline, and does not increase any interference with other existing uses of the shoreline.
 - h. In the event that a legally existing structure is damaged or destroyed by fire, explosion or other casualty, it may be reconstructed to configurations existing immediately prior to the time the structure was damaged or destroyed, provided the application is made for the necessary permits within twenty-four months of the date the damage or destruction occurred, and the restoration is completed within two years of permit issuance or the conclusion of any appeal on the permit.
 - h.i. Relocation of legally existing structures shall not increase the degree of nonconformity. Applicants are encouraged to bring any legally existing structure that is relocated into conformance with the Act and this Program.
2. Existing Appurtenances to Single-Family Residences. Those legally existing appurtenances that are common to existing single-family residences that do not meet the standards of the code shall be considered nonconforming to this Program. Such appurtenances may include garages and sheds, but shall not include bulkheads, overwater structures or other shoreline modifications.
 3. Vegetation conservation standards of this Program shall not apply retroactively in a way which requires lawfully existing uses and developments, including residential landscaping and gardens, to be removed, except as required as mitigation for new and expanded development.
 4. Structures, improvements, docks, fills or developments lawfully placed in or over water prior to December 4, 1969 shall be considered non-conforming, but may continue in accordance with RCW 90.58.270. New residential overwater structures other than docks as defined in Chapter 19.150 are prohibited.

C. Existing Lots

1. An undeveloped lot, tract, parcel, site, or division of land located landward of the OHWM that was created or established in accordance with local and state subdivision requirements prior to the effective date of this Program or the Act, but which does not conform to the present lot size standards, may be developed if permitted by other land use regulations so long as such development conforms to all other requirements of this Program or the Act.

2. This section does not modify the rules regarding the development of plats under RCW 58.17.170 as now or hereafter amended.

19.400.105 Proposed Development

A. Location

1. New development shall be located and designed to avoid or, if that is not possible, to minimize as much as possible the need for new and maintenance dredging.
2. New development, including alterations to existing structures, shall be located and designed to avoid the need for future shoreline stabilization for the life of the structure. Likewise, any new development which would require shoreline stabilization which causes significant impacts to adjacent or down-current properties shall not be allowed.
3. New development on lots constrained by depth, topography or critical areas shall be located to minimize, to the extent feasible, the need for shoreline stabilization.
4. New development on steep slopes or bluffs shall be set back sufficiently to ensure that shoreline stabilization is unlikely to be necessary during the life of the structure, as demonstrated by a geotechnical analysis.
5. Subdivision shall be planned to avoid the need for shoreline stabilization for newly created lots, utilizing geotechnical analysis where applicable.
6. Non-water-oriented facilities and accessory structures, except for preferred shoreline uses, such as single-family residences and single family residential appurtenances when consistent with buffer provisions in Chapter 19.400 of this program, must be located landward of buffers and adjacent water-oriented uses, or outside shoreline jurisdiction, unless no other location is feasible.

B Standards for Work Waterward of OHWM

1. Water-dependent in-water structures, activities, and uses are not subject to the shoreline buffers established in this Program.
2. Projects involving in-water work must obtain all applicable state and federal permits or approvals, including (but not limited to) those from the U.S. Army Corps of Engineers, Ecology, Washington Department of Fish and Wildlife (WDFW), and/or Washington Department of Natural Resources. Where necessary, projects involving in-water work must also comply with the requirements of the Thurston County HCP, once adopted, or other applicable HCPs approved by the U.S. Fish and Wildlife Service (USFWS).
3. Projects involving in-water work must comply with timing restrictions as set forth by state and federal project approvals.
4. Protection of bank and vegetation.
 - a. Alteration or disturbance of the bank and bank vegetation must be limited to that necessary to perform the in-water work.
 - b. All disturbed areas must be restored and protected from erosion using vegetation or other means.

5. If at any time, any state water quality thresholds are exceeded as a result of in-water work, immediate notification must be made to any appropriate state or federal agency, e.g., Ecology, WDFW, National Marine Fisheries Service, U.S. Fish and Wildlife Service, etc. Affected tribes shall also be notified. Refer to Ecology for the most current water quality standards.

19.400.110 Mitigation

A. Mitigation Sequencing

1. Permitted uses and developments shall be designed and conducted in a manner that protects the current ecological condition, and prevents or mitigates adverse impacts. Mitigation measures shall be applied in the following sequence of steps, listed in order of priority:
 - a. Avoid the impact altogether by not taking a certain action or parts of an action;
 - b. Minimize impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;
 - c. Rectify the impact by repairing, rehabilitating or restoring the affected environment;
 - d. Reduce or eliminate the impact over time by preservation and maintenance operations;
 - e. Compensate for the impact by replacing, enhancing, or providing substitute resources or environments, including utilization of the in-lieu-fee process where appropriate; and
 - f. Monitor the impact and the mitigation projects, and take appropriate corrective measures.
2. Application of the mitigation sequence shall achieve no net loss of ecological functions for each new development and shall not result in required mitigation in excess of that necessary to assure that development will result in no net loss of shoreline ecological functions and not have a significant adverse impact on other functions fostered by the policy of the Act or this Program.

B. Mitigation Options

1. After mitigation sequencing is applied in accordance with Section 19.400.110(A) Appendix B, *Mitigation Options to Achieve No Net Loss for New or Re-Development Activities*, shall be utilized for compensatory mitigation options. A mitigation report shall be prepared in accordance with section 19.700.140 TCC.
2. Site selection for compensatory mitigation shall consider factors to determine the most ecologically suitable potential mitigation site. References for consideration when determining appropriate site selection may include the *Thurston County In-lieu-fee Program Instrument, Appendix H, Watershed Approach to Mitigation*, Ecology's *Watershed Characterization and Land Use Planning*, and Ecology's *Selecting Mitigation Sites Using a Watershed Approach* (Western Washington), or other current resources informing mitigation decisions.
3. Proposals that use ratios different from those prescribed in this Program, that seek to obtain alternative buffers [Section 19.400.120(C)], or that include larger modifications in a buffer [Section 19.400.120(D)] may be approved if justified in a Shoreline Mitigation Plan consistent with Section 19.700.140. Where applicable, a Shoreline Variance may be required in accordance with Section 19.500.100(E).
4. Activities not listed in Appendix B that result in adverse impacts to shoreline ecological functions shall also be subject to compensatory mitigation requirements.

5. When compensatory mitigation becomes necessary on a site where documented restoration activities have occurred within the previous ten years, such documented restoration may be utilized as mitigation to offset new development impacts, provided the restoration was voluntary and not required as mitigation for prior development impacts.
 - a. Applicants wishing to make use of this provision should consult with Thurston County prior to commencing restoration activities to ensure their activities will qualify for advance mitigation, that any restoration funding utilized for the project would allow the site to be used as mitigation, and to learn how the activities could possibly be applied as mitigation for new development. Proper documentation of restoration activities must be provided with the application for new development (i.e. submittal of an agreed upon advance restoration plan as described in Section 19.700.112 of this Program).
 - b. Restoration activities must be on the ground for a period of at least three years prior to use as mitigation for new development, unless the project is able to be fully implemented in less time. The time period shall start upon receiving written and photographic notification from the applicant that the initial restoration work has been completed.
 - c. Mitigation credit for prior restoration activities shall be determined upon application for the impacting project. If necessary, additional compensatory mitigation shall be provided so that mitigation is, at a minimum, commensurate with the proposed level of impact.
 - d. Mitigation sequencing as described in section 19.400.110(A) of this program shall be applied to new development proposed pursuant to this section and as otherwise required by this program.

C. Mitigation Compliance

1. Unless otherwise specified, mitigation shall take place prior to final project inspection to provide assurance that it will be completed and to mitigate for temporal loss of shoreline functions.
2. Thurston County shall require monitoring reports on an annual basis, or an agreed upon monitoring schedule, for a minimum of five years and up to ten years, or until mitigation success is demonstrated through meeting all final performance standards for at least two consecutive monitoring reports. The mitigation plan shall provide specific criteria for monitoring the mitigation project. Results and additional conditions shall be electronically tagged to the parcel for future reference.
3. Mitigation requirements shall run with the parcel, and notice of such requirements shall be recorded as a Notice to Title. Mitigation as conditioned under project approval shall be maintained in perpetuity, except where authorized through review of an alternative mitigation plan.
4. In the event that a subsequent landowner applies for additional permits, the electronic permit database will be queried for past mitigation requirements. If such mitigation is no longer in place or functioning, it shall be reinstalled prior to permit issuance.
5. Mitigation enforcement shall occur under the authority of Chapter 19.500, Permit Provisions, Review and Enforcement, of this Program.

19.400.115 Critical Areas

A. Incorporation of Title 24 TCC

RCW 90.58.090(4) and RCW 36.70A.480(3) require jurisdictions to incorporate protections for critical areas into their master programs for those critical areas occurring within shoreline jurisdiction. All critical areas located within the minimum shoreline jurisdiction as defined in RCW 90.58 and 173-22 WAC are considered part of shoreline jurisdiction governed by this program. The entire extent of critical areas located partially within minimum shoreline jurisdiction, and buffers necessary to protect those critical areas, are also part of shoreline jurisdiction governed by this program, with the exception of critical aquifer recharge areas, lahar hazards, seismic hazards, mine hazards, and terrestrial species and their habitats subject to Chapter 24.25 TCC.

Development standards for all critical areas will continue to apply within shoreline jurisdiction, unless noted otherwise below. Permitting and administration for critical areas within shoreline jurisdiction shall be handled solely by the SMP. In general, the following provisions of the Critical Areas Ordinance (Ordinance No. 14773, adopted July 24, 2012) do not apply within shoreline jurisdiction:

1. Requirements to obtain Reasonable Use Exceptions – these shall be replaced by shoreline variances.
2. Requirements to obtain Critical Area Review Permits – these shall be replaced by shoreline permits.
3. Statements about conflicts between regulatory documents. Such conflicts shall be handled pursuant to 19.100.125 TCC.

The following sections of Title 24 TCC, Critical Areas Ordinance, dated July 24, 2012, are incorporated herein by this reference, and provided in Appendix E for reference purposes only, except as supplemented or modified under Sections 19.400.115(B) - 19.400.115(G):

1. Standards for Existing Development (24.50), as applicable and consistent with Chapter 19.500 of this Master Program. For critical areas in SMP jurisdiction, the nonconforming standards found in 24.50 TCC shall apply. Nonconforming standards for lakes, streams, and marine waters subject to this program are included in Chapter 19.400 of this Program.
2. General Provisions (24.01) – except 24.01.030(D). Conflicts between critical area and SMP provisions are handled by the SMP per 19.100.125(B).
3. Definitions (24.03), except where conflict exists, then the definitions in this Program shall govern.
4. Administrative Procedures (24.05) – sections 24.05.005, 24.05.022, 24.05.027, 24.05.060, 24.05.070, 24.05.100.
5. Critical Aquifer Recharge Areas (24.10)
6. Geologically Hazardous Areas (24.15)
7. Frequently Flooded Areas (24.20)
8. Fish and Wildlife Habitat Conservation Areas (24.25), with the exception of sections related to buffers and management zones for marine and freshwater riparian areas (these are addressed by Section 19.400.120 below).

9. Wetlands (24.30)
10. Special Reports (24.35) – where applicable to the specific critical area within shoreline jurisdiction and not already addressed in the special reports requirements in Chapter 19.700.
11. Subdivision In Critical Areas (24.55)
12. Critical Area Signs and Fencing (24.60)
13. Critical Area Tracts and Delineations (24.65)
14. Surety Agreements and Bonds (24.70)
15. Emergency Authorization (24.90)

B. Frequently Flooded Areas

Encroachments, including new construction, substantial improvements, fill and other development, are prohibited within designated floodways, unless otherwise authorized by Chapter 24.20 TCC. Before any development activities are permitted within the floodplain, compliance with Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) protection standards for critical habitats for listed species shall be demonstrated through submittal of a Habitat Management Plan prepared by a qualified wildlife biologist.

Table 24.20-1 TCC, identifies the land uses and activities that are allowable in frequently flooded areas (i.e., one-hundred-year floodplains, one-hundred-year flood zone (one percent flood zone), floodways, high ground water hazard areas/restricted development zones, channel migration hazard areas, and coastal flood hazard areas) and one-hundred-year channel migration hazard areas. All land uses and activities not allowed by or not mentioned in Table 24.20-1, except water dependent uses allowed under this Program, are prohibited within the flood hazard and channel migration hazard areas regulated by this section, except as otherwise provided in Chapter 24.01 TCC.

Also see Section 19.400.150 (Flood Hazard Reduction Measures) for additional regulations governing uses and modifications in floodways, floodplains, high groundwater areas and one-hundred-year channel migration hazard area zones.

C. Critical Freshwater Habitats

Critical freshwater habitats includes those portions of streams, rivers, wetlands, lakes and their associated channel migration zones and floodplains that provide habitat for priority species at any stage in their life cycles, and provide critical ecosystem-wide processes, as established in WAC 173-26-221(2)(c)(iv) and 24.25.005 TCC. Specific standards follow.

1. Lakes over 20 acres.
 - a. Vegetation buffers shall be retained for each shoreline environment designation as specified in Section 19.400.120 (Vegetation Conservation Buffers) below.
 - b. Where a lot cannot accommodate required buffers due to size, shape or topography, the Alternatives for New Development [Section 19.400.120(C)(1)] and Alternatives for Existing Development [Section 19.400.120(C)(2)], shall apply.
 - c. The specific Shoreline Use and Modification Development Standards of the Program shall apply (Chapter 19.600).

2. Streams and rivers over 20 cubic feet per second (cfs) mean annual flow as determined by the Department of Ecology.
 - a. A 250-foot vegetation buffer and an additional 15-foot building setback [Section 19.400.120 (B)(4)] shall be maintained from the OHWM of all Type S and Type F (greater than 20 feet in width) streams (24.25.020 TCC). Additional critical area buffers and setbacks may apply where flood hazard areas, geologically hazardous areas, or wetlands are present (see Chapter 24.15.015 and Tables 24.25-1 and 24.30-1 TCC).
 - b. Where a lot cannot accommodate required buffers due to size, shape or topography, the Alternatives for New Development [Section 19.400.120(C)(1)] and Alternatives for Existing Development [Section 19.400.120.(C)(2)], shall apply.
 - c. The specific Shoreline Use and Modification Development Standards of the Program shall apply (Chapter 19.600).
3. The subdivision of land shall not be established when it would be reasonably foreseeable that the development or use would require structural flood hazard reduction measures within the channel migration zone or floodway. When evaluating alternate flood control measures or floodplain restoration opportunities, the removal or relocation of structures in flood-prone areas shall be given consideration.

D. Critical Saltwater Habitats

1. Critical saltwater habitats require a higher level of protection due to the important ecological functions they provide. Non-residential docks, bulkheads, bridges, fill, floats, jetties, utility crossings and other human-made structures shall not intrude into or over critical saltwater habitats except in the following circumstances, and only when the applicable use or modification standards are also met (Chapter 19.600).
 - a. The public's need for such an action or structure is clearly demonstrated, and the proposal is consistent with protection of the public trust.
 - b. Avoidance of impacts to critical saltwater habitats by an alternative alignment or location is not feasible or would result in unreasonable and disproportionate cost to accomplish the same general purpose. A cost analysis may be required to assist with the feasibility determination.
 - c. The project, along with any required mitigation, will result in no net loss of ecological functions associated with critical saltwater habitat.
 - d. The project is consistent with the State's interest in resource protection and species recovery.
 - e. Marine riparian habitat zones shall be maintained as described in Section 24.25.050 TCC.
2. When a habitat survey (see Section 19.700.145, Biological and Habitat Surveys) is required pursuant to the applicable use or modification section, the *Thurston County Shoreline Master Program Update Inventory and Characterization* report shall be consulted as a basis for existing conditions, along with appropriate field verification. See the applicable sections for specific measures necessary for minimization and mitigation of impacts to critical saltwater habitats.
3. Critical saltwater habitats include (see Chapter 19.150, Definitions, for more detail):
 - a. Kelp beds
 - b. Eelgrass beds

- c. Spawning and holding areas for forage fish, such as herring, smelt and sand lance
- d. Shellfish beds (subsistence, commercial and recreational)
- e. Mudflats
- f. Intertidal habitats with vascular plants
- g. Areas with which priority species have a primary association

E. Geologically Hazardous Areas

Channel migration zones shall be classified as landslide hazard areas, and may be either high geologic hazard or low geologic hazard depending on the site characteristics outlined in TCC 24.20. Channel migration zone maps can be found in Appendix D of this Program.

F. Wetlands

1. Consistent with WAC 173-22-035 and TCC 24.30.020, wetlands in shoreline jurisdiction shall be delineated using the procedure outlined in the approved federal wetland delineation manual and applicable regional supplements.,
2. A wetland buffer may not be reduced through averaging more than 25 percent of the standard buffer width applied per TCC 24.30.045. Buffer reduction is allowed only when following the steps described in TCC 24.30.050.
3. The County may require an increase in buffer width, as specified in TCC 24.30.055, as necessary to protect wetland area, their functions, and their buffers.

G. Fish and Wildlife Habitat Conservation Areas

1. All typed waters, defined by WAC 222-16-030 with 20 cubic feet per second (cfs) or over 20 cfs mean annual flow, and their buffers are regulated by this Program and other provisions of Chapter 24.25. TCC. All stream types under 20 cfs mean annual flow are regulated under Chapter 24.25 TCC.
2. Important animal and plant species, their habitats of primary association, and other important habitats protected by this Program are included in Chapter 24.25.065 TCC.

19.400.120 Vegetation Conservation Buffers

A General Regulations

1. Vegetation conservation buffers provide a means to conserve, protect and restore shoreline vegetation in order to provide for ecological and habitat functions as well as human health and safety. Buffers shall consist of a non-clearing area established to protect the integrity, functions and values of the affected critical area or shoreline, but may also be modified and reduced to accommodate allowed uses when consistent with the Act and this Program. The standards below provide a flexible approach to maximize both ecological functions and water-oriented uses.
2. Vegetation conservation standards shall not be applied retroactively in a way which requires lawfully existing uses and developments (as of the effective date of this Program), including residential landscaping and gardens, to be removed, except when required as mitigation for new or expanded development.

3. In order to implement this Program’s policies for preservation of native plant communities on marine, river, lake, and wetland shorelines, mitigation sequencing shall be applied during site planning for uses and activities within the shoreline jurisdiction so that the design and location of the structure or development minimizes native vegetation removal. Development or uses that require vegetation clearing shall be designed to avoid the following in the order indicated below, with a. being the most desirable vegetation to retain:
 - a. Native trees,
 - b. Other native vegetation,
 - c. Non-native trees, and
 - d. Other non-native vegetation.

B. Buffer Widths

1. Standard Buffer. Each shoreline environment designation shall have a starting, or standard, buffer as measured landward from the OHWM. This buffer shall be adhered to unless otherwise allowed as described in the Reduced Standard Buffer provisions below or other critical area buffers are required. The Standard Buffers for each environment designation are as follows:

	Marine	Freshwater Lakes
a. Shoreline Residential:	50 feet	50 feet
b. Urban Conservancy:	125 feet	125 feet
c. Rural Conservancy:	150 feet	150 feet
d. Natural:	200 feet	200 feet
e. The Standard Buffer for freshwater streams and rivers subject to the Program is 250 feet.		
f. Buffer widths for all other streams, including Type F streams less than 20 feet wide and Type Np and Ns streams are in Table 24.25-1 TCC.		

Option for Public Hearing: For a. through d. above, consider use of buffers previously proposed in draft:

	Marine	Freshwater Lakes
a. Shoreline Residential	85 feet	75 feet
b. Urban Conservancy	250 feet	100 feet
c. Rural Conservancy	250 feet	125 feet
d. Natural	250 feet	250 feet

Staff note: The public hearing option box above indicates how proposed buffers have changed during this update process.

Current buffers applied to shorelines of the state, and which reflect the 2012 Critical Areas Ordinance update per RCW 36.70A.480, are as follows. (Please note that the 2012 update was not applied to marine shorelines designated Shoreline Residential, or to freshwater lakes. This comparison converts the current shoreline environment designations to proposed designations.)

<i>Current Buffers (2012 CAO)</i>	<i>Marine</i>	<i>Freshwater Lakes</i>	<i>Freshwater Streams</i>
<i>Shoreline Residential:</i>	<i>50 feet</i>	<i>50 feet</i>	<i>250 feet</i>
<i>Urban Conservancy:</i>	<i>250 feet</i>	<i>100 feet</i>	<i>250 feet</i>
<i>Rural Conservancy:</i>	<i>250 feet</i>	<i>100 feet</i>	<i>250 feet</i>
<i>Natural:</i>	<i>250 feet</i>	<i>100 feet</i>	<i>250 feet</i>

In the 1990 SMP, buffers were originally established as follows, regardless of water body type:

<i>Shoreline Residential:</i>	<i>50 feet</i>
<i>Urban Conservancy:</i>	<i>100 feet</i>
<i>Rural Conservancy:</i>	<i>100 feet</i>
<i>Natural:</i>	<i>100 feet</i>

2. **Reduced Standard Buffer.** Utilizing the *Mitigation Options to Achieve No Net Loss for New or Re-Development Activities* table (Appendix B) to achieve no net loss of shoreline ecological functions, the Standard Buffer may be reduced down to the Reduced Standard Buffer as specified below. The mitigation sequence outlined in paragraph 19.400.110(A) shall apply, and mitigation options shall be reviewed and approved by the County for applicability to the project site commensurate with project impacts. The *Shoreline Restoration Plan* (Appendix C) shall serve as an initial review source. The Reduced Standard Buffers for each environment designation are as follows:
 - a. Shoreline Residential: 50 feet (no reduction without Type III variance)
 - b. Urban Conservancy: 90 feet; 75 feet where a net gain in shoreline ecological functions can be achieved. Applications for reductions below 90 feet shall include information documenting: a) mitigation necessary to achieve no net loss of shoreline ecological functions for the reduced 90-foot buffer; b) additional mitigation necessary to achieve no net loss for any reduction **below** 75 feet; and c) additional actions proposed to achieve a net gain in shoreline ecological functions. Proposed restoration activities shall not include projects previously identified for public funding, except that public-private partnerships may be utilized. A minimum five-year monitoring plan shall be required to demonstrate project success, in accordance with Section 19.400.110(C), Mitigation Compliance.
 - c. Rural Conservancy: 110 feet
 - d. Natural: 150 feet
 - e. Shoreline jurisdictional freshwater streams and rivers: buffers may be reduced pursuant to the standards in Section 19.400.120(C) below.
3. **Additional Standards for Applying the Reduced Standard Buffer,** in a through e above, within the Rural Conservancy and Natural designations and shorelines of statewide significance. Buffers may be reduced for single-family residences and water-oriented uses in the Rural Conservancy

designation, Natural designation, and shorelines of statewide significance only under the following circumstances with appropriate mitigation:

- a. The lot is physically constrained by slopes, wetlands or other natural features such that the Standard Buffer cannot be met; or
 - b. The lot is legally constrained by its size or shape, such that it would not support a home and garage with a footprint of at least 1,200 square feet if placed at or above the Standard Buffer.
4. An additional 15-foot building setback shall be maintained beyond the outer boundary of the buffer. This building setback may be reduced or waived by the approval authority provided that the resulting setback is protective of existing vegetation within the buffer. The building setback is to protect the buffer during construction and is no longer required after construction is completed. After construction, this area may be utilized for normal residential activities (e.g. planted with lawn or landscaping, or patio or decking may be installed). The setback shall not interfere with the ability to maintain legally nonconforming structures. Construction activities within the building setback shall not negatively impact the buffer.
 5. Buffer widths may be increased in situations where steep slopes, the presence of important habitat or species, landslide hazard areas, marine bluffs, areas of inadequate vegetation to protect water quality, or other hazards are identified during project review.

C. Constrained Lot and Infill Provisions

1. Alternatives for New Development. New single-family and water-dependent development may qualify for an alternative buffer if the following apply:
 - a. Constrained Lot Provisions.
 - i. Legally platted lots with a depth that would not allow for compliance with the Reduced Standard Buffer. Proposals to reduce the buffer below the Reduced Standard Buffer shall require a Shoreline Mitigation Plan (Section 19.700.140), starting with review of existing conditions as presented in the *Thurston County Shoreline Master Program Update Inventory and Characterization* report and supplemented with appropriate field verification.
 - ii. If the development requires less than a 25% reduction of the Reduced Standard Buffer, or any amount of buffer reduction within the Shoreline Residential designation, a Type II Administrative Variance shall be required. If the development is not within the Shoreline Residential designation and requires greater than a 25% reduction of the Reduced Standard Buffer, a Type III Variance shall be required.
 - b. Water-dependent development. Buffers may be modified and reduced to accommodate water-dependent uses when consistent with the Act and this Master Program, and when conducted so that no net loss of critical areas or shoreline ecological functions occurs. Any impacts to the buffer, loss of critical areas or shoreline ecological functions will require mitigation pursuant to the *Mitigation Options to Achieve No Net Loss for New or Re-Development Activities* table (Appendix B)
2. Alternatives for Existing Development.

- a. Expansion of development outside of the Standard Buffer width. Expansion of existing development landward, outside the Standard Buffer shall be permitted, provided all other applicable provisions are met.
- b. Expansion of development within the Standard Buffer width. Structures in existence on the effective date of this Program that do not meet the setback or buffer requirements of this Program may be remodeled or reconstructed provided that the new construction or related activity does not exceed the standard height limit of 35 feet, remains in the existing footprint and does not further intrude into the Standard Buffer.
- c. Expansion of development below the Standard Buffer width. Expansion of existing development below the Standard Buffer shall not occur further waterward of the existing structure. Any expansion below the Standard Buffer shall require a Shoreline Mitigation Plan (see Section 19.700.140). Expansion within the Standard Buffer shall require a Type II Administrative Variance. Expansion within the Reduced Standard Buffer shall require a Type III Variance.

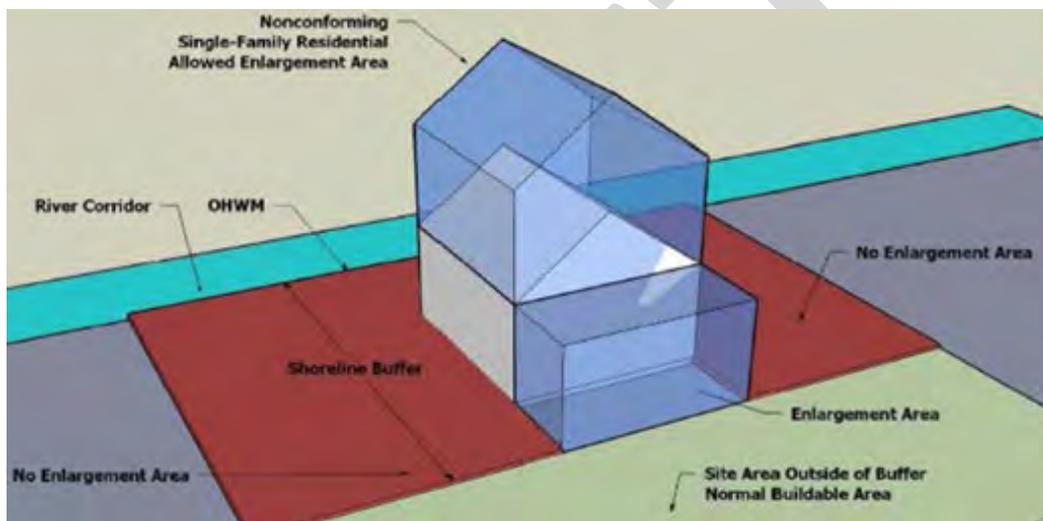


Figure 19.400.120 (C)(1) Allowed Expansion of Nonconforming Structures.

D. Other Uses and Modifications in Buffers

1. In order to accommodate water-enjoyment uses and development within the buffer, the following standards shall apply:
 - a. Trails. Trails shall be limited to four feet in width, except where demonstrated necessary for a water-dependent use. Disturbance to soil, hydrological character, trees, shrubs, snags and important wildlife habitat shall be minimized. Pervious surfaces shall be utilized except where determined infeasible. Refer to Chapters 24.25.267 & 24.25.270 TCC for specifics on trail location, design, construction, and maintenance.
 - i. Trails should be kept outside of all critical area buffers. If allowed, trails should only be located in the outer 25% of the buffer and follow mitigation sequencing in accordance with Section 19.400.110(A).

ii. Trails that meet the definition of water-oriented use may be located within shoreline buffers when it can be demonstrated that buffer impacts are limited through mitigation sequencing in accordance with Section 19.400.110(A). Compensatory mitigation for unavoidable impacts will be required.

- b. Decks and Viewing Platforms. Decks and viewing platforms adjacent to residential structures may be permitted, but shall be limited to one hundred square feet in size, unless demonstrated that a larger structure will not result in a net loss of shoreline ecological function through submittal of a Shoreline Mitigation Plan (Section 19.700.140). The structure shall be no closer than 25 feet from the ordinary high water mark (OHMW). Viewing platforms shall not have roofs, and be no higher than 3 feet above grade. Creosote and pentachlorophenol should not be utilized in construction materials for decks, viewing platforms or boardwalks.

Public Hearing Option: Consider allowing decks and viewing platforms larger than 100 square feet as default option, or closer than 25 feet, allowing it for public access, and whether this requires a shoreline variance.

Also see Public Hearing Option language in Appendix B, section B.2.C. regarding parameters for decks to be considered pervious surface.

- c. Beach Stairs. Beach stairs are permitted to allow shoreline access for a water-oriented use, or for public access. Beach stairs shall be located and designed consistent with mitigation sequencing and shall avoid a net loss of shoreline ecological functions. A Habitat Management Plan is required to assess, minimize, and mitigate for unavoidable impacts. A geological or geotechnical report may be required. Beach stairs placed below the OHWM will normally require a shoreline permit from Thurston County, and Hydraulic Project Approval (HPA) from WDFW. Beach stairs with stair towers shall require an SDP where exemption provisions are not met. A joint-use beach stair structure used by more than one property owner is encouraged. The following standards also apply to beach stairs:
- i. Avoid Habitat Impacts. Stair towers, stairways, and mechanical lifts shall not be located, designed, or constructed such that they would ground on surf smelt, Pacific sand lance or herring spawning beds, or on eelgrass beds (*Zostera* spp.).
 - ii. Treated Wood. Any treated wood proposed to be used in the construction of the stair tower, stairway and/or mechanical lift that would be placed in, over, or within 100 feet of the water is subject to county approval. Only treatments that pose a negligible risk to water quality shall be permitted.
 - iii. Armoring. Riprap or other armoring shall not be placed on a beach to protect stair towers, stairways or mechanical lifts.
 - iv. Footprint. The footprint of the stair tower, stairway, and mechanical lift shall be the minimum necessary to accommodate the proposed use.
- d. Boat Launches and Rails. Boat launches and rails, when consistent with requirements in Section 19.600.160(C)(6) of this program, may be permitted, provided all applicable provisions are met to avoid net loss of shoreline functions.

- e. **Water-Oriented Storage Structure.** One water-oriented storage structure to store boats and related equipment may be allowed within the buffer provided:
 - i. The structure is no closer than 25 feet from ordinary high water mark as determined by the Department;
 - ii. Mitigation will be required for buffer impacts due to placement of the storage structure within the buffer area;
 - iii. The structure's width shall be no greater than 25 feet or 25% of the lot width, whichever is less;
 - iv. Side yard setbacks shall be 10 feet for docks and storage structure.
 - v. The highest point of the structure shall not be greater than 12 feet above grade;
 - vi. The overall size shall not exceed 200 square feet.
 - vii. Allowance of a storage structure within a buffer shall not justify the need for shoreline armoring to protect the structure.
 - viii. Storage structures shall be prohibited in the Natural environment.

Planning Commission Option: Limit water-oriented storage structure to residential uses only.

- f. In no case shall non-water-oriented uses and activities be allowed below the Standard Buffer width. This includes swimming pools, sport courts, or fields.
2. Hand removal or herbicide spot-spraying of invasive or noxious weeds is permitted within Vegetation Conservation Buffers.
 3. Standards for View Thinning
 - a. View thinning activities shall be the minimum necessary, and limited to 30% of the total buffer length in the Shoreline Residential designation, and shall retain a minimum of 50% of the live crown;
 - b. View thinning activities shall be the minimum necessary, and limited to 25% of the total buffer length in the Urban Conservancy and Rural Conservancy designations, and shall retain a minimum of 50% of the live crown;
 - c. No tree removal is allowed in the Natural designation for view enhancement; however, limited tree limbing may be allowed upon review and approval by the Department.
 - d. View thinning within the limited areas specified above shall generally be limited to tree limbing (see below, Figure 19.400.120(D)(1)). Where tree removal is demonstrated to be necessary, replanting of native trees shall occur at a 3:1 ratio (planted: removed) within the buffer area. Monitoring and maintenance of the plantings may be required by the Department.
 - e. Topping of trees is prohibited, except where demonstrated necessary for safety.
 - f. An advance site visit may be required by the Department of Community Planning and Economic Development in order to confirm the proposed thinning is consistent with this section and critical area protection standards. Site visit request applications may be obtained on-line or in person at Thurston County's Building Development Center. The County may also utilize site photographs in lieu of a site visit where sufficient detail is available to make a determination on consistency with thinning standards.

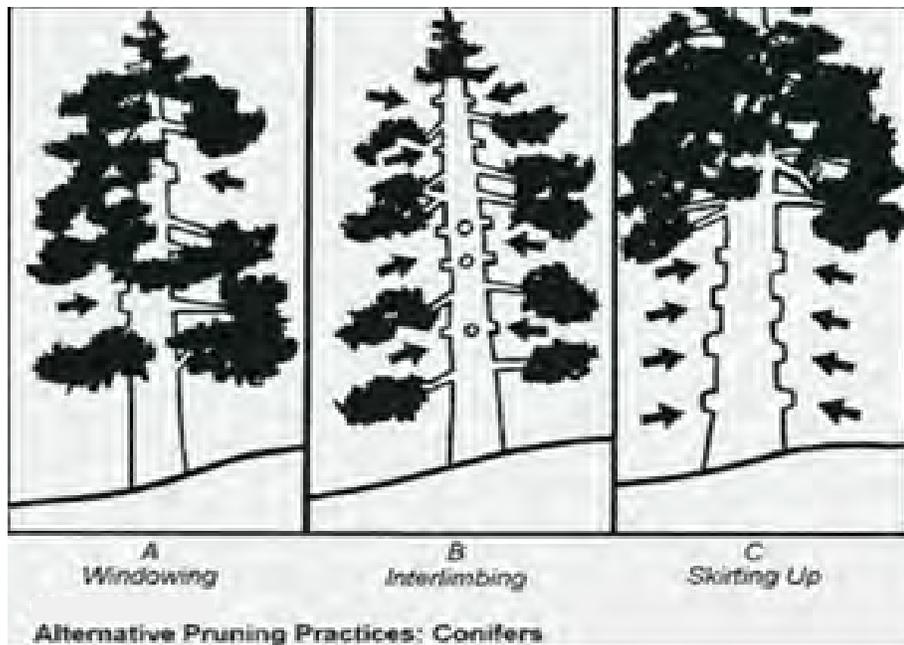


Figure 19.400.120 (D)(1) Alternative Pruning Techniques: Conifers

4. Standards for Hazard Tree Removal.

Where a threat to human life or property is demonstrated, the Department may allow removal or trimming of hazard trees within shoreline jurisdiction. Requests for tree removal shall be reviewed by the Department in accordance with the following criteria:

- a. Tree removal shall be the minimum necessary to balance protection of the critical area or shoreline buffer with protection of life and property.
 - b. The critical area or shoreline buffer shall be replanted as determined by the Department. Except where determined otherwise, a replanting ratio of at least 1:1 (planted: removed) shall be a standard requirement;
 - c. The Department shall coordinate with the property owner and WDFW as determined necessary to assure habitat protection. Habitat needs may require leaving the fallen tree within the buffer area or leaving a high stump for wildlife habitat;
 - d. The Department may require a site visit to review the proposal, subject to applicable fee requirements in the Thurston County Fee Schedule. Alternatively, the Department may request photographs from the applicant to assess the situation.
 - e. If a site visit is not adequate to evaluate the proposed removal, the Department may require the applicant to consult with a professional forester or a certified arborist prior to tree removal.
5. Property line fencing. Property owners may install fences within shoreline buffers to delineate property boundaries, subject to other applicable regulations. Fences shall not encroach waterward of the OHWM.

19.400.125 Water Quality and Quantity

New development shall provide stormwater management facilities designed, constructed and maintained in accordance with the current stormwater management standards, including but not limited to the following. In addition, applicable hard surface limits may also be found in Chapter 20.07 TCC and development standards for the zoning designation the project is located in (Titles 20, 21, 22, 23 TCC):

- a. Chapter 2 of Volume I of the Thurston County Drainage Design and Erosion Control Manual (DDECM, dated December 31, 2016, or as amended) to determine which of the 11 Core Requirements apply to projects,
- b. Chapter 3 of Volume I to determine what submittals will be required, what submittals shall contain and what site investigations, studies, and mapping will be required,
- c. Chapter 4 of Volume I to determine what Best Management Practices (BMP's) should be applied to meet the requirements for on-site low impact development (LID) measures, flow control, and runoff treatment,
- d. Guidance material in Volume II of the DDECM to prepare a Construction Stormwater Pollution Prevention Plan (Temporary Erosion and Sediment Control Plan) for the proposed project,
- e. Information in Volume III that provides guidance on hydrologic modeling, conveyance system design, and establishing design infiltration rates for infiltration ponds,
- f. And Volume V of the DDECM to site and design appropriate BMP's, paying particular attention to minimum required setbacks.

19.400.130 Historic, Archeological, Cultural, Scientific and Educational Resources (HASCE)

A. Applicability and Other Regulations

1. This section applies to archaeological and historic resources either recorded by the Department of Archaeology and Historic Preservation (DAHP), Thurston County Historic Commission (per Section 2.106.010 TCC), local jurisdictions or applicable tribal data bases or predictive models.
2. HASCE sites shall comply with the Governor's Executive Order 05-05, Section 2.106 TCC (Historic Commission), Chapter 25-48 WAC (Archaeological Excavation and Removal Permit), Chapter 27.44 RCW (Indian graves and records), and Chapter 27.53 RCW (Archaeological sites and resources).

B. Known or Potential HASCE Sites

1. Tribal Historic Preservation Officers (THPOs) for tribes with jurisdiction will be provided the opportunity to review and comment on all development proposals in the Thurston County shoreline jurisdiction, both terrestrial and aquatic, in order to ensure all known or potential

archaeological sites, Traditional Cultural Properties and Traditional Cultural Landscapes are acknowledged, properly surveyed and adequately protected.

2. If archaeological resources are known in advance, developers and property owners must notify Thurston County, the Department of Archaeology and Historic Preservation, and applicable tribes.
3. Sites with known or potential archaeological resources, as determined pursuant to the resources listed at the beginning of this section, shall require a site inspection by a professional archaeologist in coordination with the affected tribe(s). The THPO shall be provided the opportunity to evaluate and comment on cultural resources evaluations conducted by the professional archaeologist.
4. Work on sites with identified archaeological resources shall not start until authorized by the Department of Archaeology and Historic Preservation through an Archaeological Excavation and Removal Permit, which may condition development permits.

C. Discovered HASCE sites

1. If archaeological resources are uncovered during excavation, developers and property owners must immediately stop work and notify Thurston County, the Office of Archaeology and Historic Preservation and affected Indian tribes.
2. Uncovered sites shall require a site inspection by a professional archaeologist in coordination with the affected tribe(s). Tribal Historic Preservation Officers shall be provided the opportunity to evaluate and comment on cultural resources evaluations conducted by the professional archaeologist.
3. Work shall not re-commence until authorized by the Office of Archaeology and Historic Preservation through an Archaeological Excavation and Removal Permit, which may condition development permits.

19.400.140 Bulk and Dimension Standards

- A. The standards in Table 19.400.140 (A) below shall apply to all shoreline use and development activities except where specifically modified in this Master Program.

Table 19.400.140(A) Development Standards

Standard	Shoreline Residential	Urban Conservancy	Rural Conservancy	Natural	Aquatic
Lot Width (feet)	40-80 ¹	60	100	140	Not Applicable
Shoreline Buffers	See Section 19.400.120(B) of this Master Program				
Side Setbacks (feet)	5 ²	5 ²	5 ²	5 ²	5 ²
Maximum Hard Surface Area (percentage of lot area)	3	3	3	3	Not Applicable
Maximum Building Height (feet) ⁴	35	35	35	35	35

Notes:

1. 40-foot lot width for lots in Limited Areas of Intensive Rural Development or Urban Growth Areas. 80-foot lot width for all other Shoreline Residential lots.
2. Buildings permanently housing animals (e.g. barns, stables, chicken coops/runs), a minimum 35 foot side yard and 35 foot rear yard setback shall apply in accordance with TCC 20.07.
3. Hard Surface thresholds for Shoreline Environmental Designations: See Section 19.400.125
4. Does not include boathouses as described above in Section 19.400.100(B)(4), or bridges as described in Section 19.600.180 and 19.400.140(B).

- B. The maximum allowable height of structures in shoreline jurisdiction is 35 feet above finished average grade. Building heights above 35 feet, but consistent with underlying zoning allowances, require authorization via a Shoreline Variance pursuant to Section 19.500.100(E) of this Master Program. Pursuant to RCW 90.58.320, bridge structures are considered to serve the public interest and are exempt from the statutory structural height limit of thirty-five (35) feet above grade.
- C. No new lots shall be created that are non-conforming. All new subdivided shoreline lots shall be, at a minimum, a 1:2 width to depth ratio. Exceptions may be granted in cases where such ratio would negatively impact critical areas or their buffers.

19.400.145 Public Access

- A. All recreational and public access facilities shall be designed, located and operated in a manner consistent with the purpose of the environment designation in which they are located.
- B. Except as provided in Regulations E, F & G below, substantial developments or conditional uses shall provide public access where any of the following conditions are present:
1. A development or use will create increased demand for public access to the shoreline.
 2. A development or use will interfere with an existing public access way.
 3. New non-water-oriented uses are proposed.
 4. A use or activity will interfere with public use of lands or waters subject to the Public Trust Doctrine.
- C. Shoreline development by public entities, port districts, state agencies, and public utility districts shall include public access measures as part of each shoreline development project, unless such access is shown to be incompatible due to reasons of safety, security, or impact to the shoreline environment.
- D. Publicly financed or subsidized shoreline erosion control measures shall not restrict appropriate public access to the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions. See public access provisions of WAC 173-26-221 (4). Where feasible, incorporate ecological restoration and public access improvements into the project.
- E. Public access shall not be required for single-family residential development of four (4) or fewer lots. For residential development of five (5) or more lots, public access may be limited to the owners of lots in the development and their guests. Rules related to public access should be included on the face of the plat, and on signage posted conspicuously at the public access point.
- F. Public access shall not be required if an applicant/proponent demonstrates to the satisfaction of the County that one or more of the following conditions apply:

1. Unavoidable health or safety hazards to the public exist and cannot be prevented by any practical means;
 2. Constitutional or other legal limitations apply;
 3. Inherent security requirements of the use cannot be satisfied through the application of alternative design features or other solutions;
 4. The cost of providing the access, easement or alternative amenity is unreasonably disproportionate to the total long-term cost of the proposed development;
 5. Adverse environmental impacts to shoreline ecological processes and functions that cannot be mitigated will result from the public access;
 6. Significant undue and unavoidable conflict between any access provisions and the proposed use and/or adjacent uses would occur and cannot be mitigated; or
 7. Adequate public access already exists within a mile along the subject shoreline, and there are no gaps or enhancements required to be addressed by the individual shoreline development.
- G. Off-site public access may be allowed where it results in an equal or greater public benefit than on-site public access, or when on-site limitations relating to security, environment, use conflict, intervening improvements, or feasibility are present. Sites on the same waterbody, or secondarily within the same watershed, are preferred. Where feasible, off-site public access should include both visual and physical elements. Off-site public access may include, but is not limited to, enhancing an adjacent public property (e.g., existing public or recreation access site, road, street, or alley abutting a body of water, or similar) in accordance with County standards; providing, improving or enhancing public access on another property under the control of the applicant/proponent; or another equivalent measure.
- H. When provisions for public access are required as a condition of project approval, the Director shall prepare written findings demonstrating consistency with constitutional and legal practices regarding private property and the principles of nexus and proportionality.
- I. Required public access sites shall be fully developed and available for public use at the time of occupancy of the shoreline development.
- J. Public access provisions shall run with the land and be recorded via a legal instrument such as an easement, or as a dedication on the face of a plat or short plat. Such legal instruments shall be recorded with the County Auditor's Office prior to the time of building permit approval, occupancy or plat approval, whichever comes first (RCW 58.17.110). Future actions by the applicant's successors in interest or other parties shall not diminish the usefulness or value of required public access areas and associated improvements.
- K. Maintenance of the public access facility over the life of the use or development shall be the responsibility of the owner unless otherwise accepted by a public or non-profit agency through a formal agreement recorded with the County Auditor's Office.
- L. The removal of on-site native vegetation shall be limited to the minimum necessary for the recreational or public access development area, such as picnic areas, campsites, selected views, or other permitted structures or facilities.
- M. Preference shall be given to activities that are consistent with approved state and local park plans for water-oriented recreational development, including but not limited to the Thurston County Comprehensive Plan, Thurston County Parks Plan, Washington State Parks CAMP plans, Thurston County Non-Motorized Plan, and other agency plans.

- N. Vehicular traffic is prohibited on beaches, bars, spits and streambeds, except for permitted construction and boat launching, or in areas where it can be demonstrated that a historical use has been established.
- O. Public road-ends, tax-title lands and right-of-ways adjacent to shorelines of the state shall be preserved, maintained and enhanced consistent with RCW 36.87.130. The Thurston County “Right of Way Use Permit” process in TCC) shall be utilized to open shoreline road-ends, as now or hereafter amended. Such process shall include notification of abutting property owners, and may include a neighborhood meeting or community council outreach effort in order to solicit and resolve community concerns with regard to specific proposals. The public interest in shoreline access shall be given appropriate consideration during the review process, consistent with the Act. Decisions to approve or deny opening of road-ends may be appealed in accordance with Chapter 13.80 TCC.
- P. Trail access shall be provided to link upland facilities to the beach area where feasible and where impacts to ecological functions can be adequately mitigated.
- Q. When applicable, recreational and public access development shall make adequate provisions for the following. These requirements may be waived for opening of public road ends, tax title lands, and right-of-ways as described in N above, except where determined necessary through the public review process:
1. Vehicular parking and pedestrian access;
 2. Proper wastewater and solid waste disposal methods;
 3. Security and fire protection;
 4. The prevention of overflow and trespass onto adjacent properties, including, but not limited to, landscaping, fencing, and posting of property; and
 5. Screening of such development from adjacent private property to prevent noise and light impacts.
 6. Compliance with the Americans with Disabilities Act (ADA), including being barrier-free and accessible for physically disabled uses where feasible.
- R. Shoreline trails and pathways shall be located, designed, and constructed to avoid and minimize bank instability.
- S. Project-specific public access standards are contained in the following Shoreline Use and Modification Development Standards sections (Chapter 19.600):
1. Barrier Structures and other In-Stream Structures (Section 19.600.120)
 2. Boating Facilities (Section 19.600.125)
 3. Commercial Development (Section 19.600.130)
 4. Fill (Section 19.600.140)
 5. Industrial Development (Section 19.600.150)
 6. Residential Development (Section 19.600.170)
 7. Shoreline Stabilization (Section 19.600.175)

19.400.150 Flood Hazard Reduction Measures

A. Environment Designations Permit Requirements

An SDP is required for installation of flood hazard reduction measures in all environment designations.

B. Development Standards

1. Development in floodplains shall not significantly or cumulatively increase flood hazard and shall follow the criteria in Chapter 14.38 TCC.
2. New structural flood hazard reduction measures in shoreline jurisdiction are allowed only when a scientific and engineering analysis documents all of the following:
 - a. They are necessary to protect existing development;
 - b. Nonstructural measures are not feasible;
 - c. Impacts on ecological functions and priority species and habitats can be successfully mitigated so as to assure no net loss; and
 - d. Appropriate vegetation conservation actions are followed.
3. The following uses and activities may be appropriate and/or necessary within the channel migration zone (see Appendix D, Channel Migration Zone Maps) or floodway, provided that they provide appropriate protection of ecological functions and do not exacerbate flood risk onsite or in nearby areas:
 - a. Actions that protect or restore the ecosystem-wide processes or ecological functions.
 - b. Forest practices in compliance with the Washington State Forest Practices Act and its implementing rules.
 - c. Existing and ongoing agricultural practices, provided that no new restrictions to channel movement occur.
 - d. Mining when conducted in a manner consistent with WAC 173-26-241(3)(h) and this Program.
 - e. Bridges, utility lines, and other public utility and transportation structures where no other feasible alternative exists or the alternative would result in unreasonable and disproportionate cost. Where such structures are allowed, mitigation shall address impacted functions and processes in the affected section of watershed or drift cell.
 - f. Repair and maintenance of an existing legal use.
 - g. Modifications or additions to an existing legal use, provided that channel migration is not further limited.
 - h. Development in designated UGAs where existing structures prevent active channel movement and flooding.
 - i. Measures to reduce shoreline erosion, provided that it is demonstrated that the erosion rate exceeds that which would normally occur in a natural condition, that the measure does not interfere with fluvial hydrological and geomorphological processes normally acting in natural conditions, and that the measure includes appropriate mitigation of impacts to ecological functions associated with the river or stream.
 - j. Development with the primary purpose of protecting or restoring ecological functions and ecosystem-wide processes.

Applicants for shoreline development or modification may submit a site-specific channel migration zone study if they do not agree with the mapping in Appendix D.

4. Structural flood hazard reduction measures shall be consistent with the County's adopted Hazard Mitigation Plan that evaluates cumulative impacts to the watershed system.
5. New structural flood hazard reduction measures shall be situated landward of associated wetlands and designated vegetation conservation areas, unless actions are intended to increase ecological functions or if it is determined through a geotechnical analysis that no other alternative to reduce flood hazard to existing development is feasible. Mitigation may be required for impacts to critical areas.
6. New structural flood hazard reduction measures on public lands or funded by the public shall provide or improve public access pathways unless such improvements would cause unavoidable health or safety hazards, significant ecological impacts, unavoidable conflict with the proposed use, or a cost that is disproportionate and unreasonable to the total long-term cost of the development.
7. The removal of gravel for flood management purposes may be permitted only if a biological and geomorphological study shows that extraction:
 - a. Has a long-term benefit to flood hazard reduction,
 - b. Results in not net loss of ecological functions, and
 - c. Is part of a comprehensive flood management solution.

19.400.155 Restoration and Enhancement

A. Environment Designations Permit Requirements

Restoration and enhancement uses and developments are permitted as an SDP, or may be exempt from an SDP if criteria in Section 19.500.100(C) are met, for all environment designations, provided the project's primary purpose is the restoration of the natural character and ecological functions of the shoreline, as determined by the Department.

B. Development Standards

1. Restoration and enhancement shall be carried out in accordance with an approved shoreline restoration plan that uses the best available scientific and technical information, and implemented using best management practices (BMPs).
2. All shoreline restoration and enhancement projects shall protect the integrity of adjacent natural resources, including aquatic habitats and water quality, and shall not result in significant adverse changes to sediment transport, ecological processes, properties, or habitat.
3. Long-term maintenance and monitoring shall be arranged by the project applicant and included in restoration or enhancement proposals. Monitoring shall occur for a minimum of five years, except the term may be reduced if all final performance standards have been met for at least two consecutive monitoring reports, demonstrating project success.

4. Shoreline restoration and enhancement shall not significantly interfere with the normal public use of the navigable waters of the state or tribal resources without appropriate mitigation. For projects on state-owned aquatic lands, prior to the solicitation of permits from regulatory agencies, project proponents must coordinate with the Washington Department of Natural Resources to ensure the project will be appropriately located. Affected tribes shall also be notified.

5 Applicants in the County's UGAs seeking to perform restoration projects that may shift the OHWM landward of the pre-project location, are advised to work with the County to assess whether and how the non-restoration-related elements of the project may be allowed relief under RCW 90.58.580.

DRAFT

Chapter 19.500 Permit Provisions, Review and Enforcement

19.500.050 Statement of Applicability and Purpose

RCW 90.58.140(3) requires local governments to establish a Program, consistent with the rules adopted by Ecology, for the administration and enforcement of shoreline development. Also, in accordance with RCW 90.58.050, which provides that this Program is intended to establish a cooperative program between Thurston County and the State, Thurston County shall have the primary responsibility for administering the regulatory program, and Ecology shall act primarily in a supportive and review capacity.

The applicable provisions of Titles 20, 21, 22, and 23 TCC shall govern the processing of permit applications required under this title. If any conflict should exist between Title 20, 21, 22, and 23 TCC and this Program, the provisions of this Program will be followed.

19.500.075 Permit Types Definitions

Applications for review of permit types or actions listed in Table 24.05-1 TCC shall be subject to a Type I, Type II, Type III, IV, or Type V review process. The application types are classified as follows:

- A. A Type I process involves:
 1. An application that is subject to clear, objective and nondiscretionary standards or standards that require the exercise of professional judgment about technical issues; and
 2. Is exempt from State Environmental Policy Act (SEPA) review.
- B. A Type II process involves an application that is subject to objective and subjective standards which require the exercise of limited discretion about nontechnical issues and about which there may be limited public interest. (Requires SEPA)
- C. A Type III process involves an application that is subject to standards which require the exercise of substantial discretion and about which there may be broad public interest. (Requires Hearing Examiner decision)
- D. A Type IV process involves the adoption or amendment of critical areas policies or regulations. It also includes critical areas analysis that would be required for a site-specific comprehensive plan or zoning amendment.
- E. A Type V process is similar to a Type III process except that the local permit decision is not final until the permit has been reviewed, and either approved, denied, or approved with conditions, by Ecology within their 30 day permit decision review period pursuant to WAC 173-27-130 and 173-27-200.

19.500.100 Permit Application Review and Permits

A. Permit Application Review

1. No authorization to undertake use or development on shorelines of the state shall be granted by Thurston County unless upon review the use or development is determined to be consistent with the policy and provisions of the Act and this Program.
2. Per WAC 173-27-140(2), no permit shall be issued for any structure of more than thirty-five (35) feet above average grade level on shorelines of the state that will obstruct the view of a substantial number of residences on areas adjoining such shorelines, except where allowed through a variance, and then only when overriding considerations of the public interest will be served.
3. Consolidated Permit Review shall occur pursuant to the procedures in Chapter 20.60.025 TCC.
4. State Environmental Policy Act (SEPA) compliance shall be required for non-SEPA exempt projects, pursuant to the procedures in Title 17.09 TCC.
5. A permit or written approval is required from Thurston County for all development within shoreland jurisdiction. Written approval from Thurston County is required prior to conducting any and all exempt activities, unless otherwise stated in this Program.
6. The County may grant relief from shoreline master program development standards and use regulations resulting from shoreline restoration projects within urban growth areas consistent with criteria and procedures in WAC 173-27-215.
7. All Shoreline permits and shoreline exemptions may be conditioned to ensure compliance with the SMP and the Shoreline Management Act.
8. Each permit for a substantial development, conditional use or variance, issued by Thurston County shall contain a provision that construction pursuant to the permit shall not begin and is not authorized until twenty-one days from the date of filing as defined in RCW [90.58.140\(6\)](#) and WAC [173-27-130](#), or until all review proceedings initiated within twenty-one days from the date of such filing have been terminated; except as provided in RCW [90.58.140](#) (5)(a) and (b).

B. Substantial Development Permit

1. The Act provides that no substantial development shall be undertaken on the shoreline of the state without first obtaining a Substantial Development Permit (SDP).
2. A SDP shall be classified as a Type III permit review under Chapter 20.60.020 TCC. Where Administrative SDPs are allowed, they shall be classified as a Type I permit review under Chapter 20.60.020 TCC, or a Type II if SEPA is needed.

Public Hearing Option: Consider making SDPs either a Type I (if SEPA is not required), or Type II permit (if SEPA is required). This option would remove the requirement for SDPs to undergo a public hearing before the Hearing Examiner, though public notification requirements of Type I and II permits would remain. Decisions on SDPs would be made by staff under this option.

3. A SDP shall be granted only when the applicant can demonstrate that the proposed development is consistent with the policies and procedures of the Act and this Program, as well as criteria in WAC 173-27-150.
4. The Act provides a limited number of exemptions to the requirement of the substantial development permit. Those exemptions are contained in RCW 90.58.030 and WAC 173-27-040 as listed in the section below. Whether or not a development constitutes a substantial development, all development and uses must comply with the requirements contained in the Act and this Program and may require other permits or approvals under this Master Program. Permits and exemptions may be issued with limitations or conditions to assure consistency with the Act and this Program.
5. All applications for Shoreline Substantial Development Permits or permit revisions shall be submitted to the Department of Ecology upon a final decision by local government pursuant to WAC 173-27-130. Final decision by local government shall mean the order of ruling, whether it be an approval or denial, that is established after all local administrative appeals related to the permit have concluded or the opportunity to initiate such appeals have lapsed.

C. Exemptions from Substantial Development Permits

1. Certain activities, developments or uses are exempt from the Substantial Development Permit requirements of the Act and this Program. These developments are those set forth in WAC 173-27-040 (or as amended), and do not meet the definition of substantial development under RCW 90.58.030(3)(e). A summary of exempt developments is listed in sub-section 3 below, the application of which shall be guided by WAC 173-27-040 (or as amended).
2. Application and interpretation of exemptions.
 - a. Exemptions shall be construed narrowly. Only those developments that meet the precise terms of one or more of the listed exemptions may be granted exemption from the Substantial Development Permit process.
 - b. An exemption from the SDP process is not an exemption from compliance with the Act or this Master Program, or from any other regulatory requirements. To be authorized, all uses and developments must be consistent with the policies and provisions of this Master Program and the Act. A development or use that is listed as a conditional use pursuant to this Master Program or is an unlisted use, must obtain a CUP even though the development or use does not require a SDP. When a development or use is proposed that does not comply with the bulk, dimensional and performance standards found in Chapters 19.400 and 19.600 of this Master Program, such development or use can only be authorized by approval of a Shoreline Variance (see Section 19.500.100(E)).
 - c. The burden of proof that a development or use is exempt from the permit process is on the applicant.
 - d. If any part of a proposed development is not eligible for exemption, then a SDP is required for the entire proposed development project.
 - e. The County may attach conditions to the approval of exempted developments and/or uses as necessary to assure consistency of the project with the Act and this Master Program.
3. Documentation of exemptions. For any project qualifying for a permit exemption that requires Federal Rivers & Harbors Act §10 permits, Federal Clean Water Act §404 permits, or State

Hydraulic Project Approval, a permit exemption letter must be prepared. The County shall also prepare permit exemption letters for other types of exemptions, generally for activities at or below the OHWM, including but not limited to single-use buoys and floats. Permit exemption requests may be obtained through the County Building Development Center. The County shall document exemptions in the permit system.

4. The following list of developments, summarized from WAC 173-27-040 (see chapter for complete language), shall not require SDPs:
 - a. Any development of which the total cost or fair market value, whichever is higher, does not exceed seven thousand and forty-seven dollars (as amended), if such development does not materially interfere with the normal public use of the water or shorelines of the state. The dollar threshold established in this subsection is adjusted for inflation by the Washington State Office of Financial Management every five years. The total cost or fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials;
 - b. Normal maintenance or repair of existing structures or developments, including damage by accident, fire or elements, and including remodeling or replacement of a structure in the same footprint where authorized pursuant to WAC 173-27-040;
 - c. Construction of the normal protective bulkhead common to single-family residences. A "normal protective" bulkhead includes those structural and nonstructural developments installed at or near, and parallel to, the OHWM for the sole purpose of protecting an existing single-family residence and appurtenant structures from loss or damage by erosion;
 - d. Emergency construction necessary to protect property from damage by the elements;
 - e. Construction and practices normal or necessary for existing farming, irrigation, and ranching activities;
 - f. Construction or modification of navigational aids such as channel markers and anchor buoys;
 - g. Construction on shorelands by an owner, lessee or contract purchaser of a single-family residence for their own use or for the use of their family, which residence does not exceed a height of thirty-five feet above average grade level and which meets all requirements of Thurston County or a state agency having jurisdiction thereof, other than requirements imposed pursuant to Chapter 90.58 RCW. "Single-family residence" means a detached dwelling designed for and occupied by one family including those structures and developments within a contiguous ownership which are a normal appurtenance. An "appurtenance" is necessarily connected to the use and enjoyment of a single-family residence and is located landward of the ordinary high water mark and the perimeter of a wetland. On a statewide basis, normal appurtenances include a garage; deck; driveway; utilities; fences; installation of a septic tank and drainfield and grading which does not exceed two hundred fifty cubic yards and which does not involve placement of fill in any wetland or waterward of the ordinary high water mark. Construction authorized under this exemption shall be located landward of the ordinary high water mark.
 - h. Construction of a dock, including a community dock, designed for pleasure craft only, for the private noncommercial use of the owner, lessee, or contract purchaser of single-family and multiple-family residences. This exception applies if either:
 - i. In salt waters, the fair market value of the dock does not exceed two thousand five hundred dollars; or
 - ii. In fresh waters, the fair market value of the dock does not exceed: Twenty-two thousand five hundred dollars (\$22,500) for docks that are constructed to replace

existing docks, are of equal or lesser square footage than the existing dock being replaced; or

- (A) Eleven thousand two hundred (\$11,200) dollars for all other docks constructed in fresh waters.

However, if subsequent construction occurs within five years of completion of the prior construction, and the combined fair market value of the subsequent and prior construction exceeds the amount specified above, the subsequent construction shall be considered a substantial development for the purpose of this chapter.

- i. Operation, maintenance, or construction of canals, waterways, drains, reservoirs, or other facilities that now exist or are hereafter created or developed as a part of an irrigation system;
- j. The marking of property lines or corners on state-owned lands, when such marking does not significantly interfere with normal public use of the surface of the water;
- k. Operation and maintenance of any system of dikes, ditches, drains, or other facilities existing on September 8, 1975, which were created, developed or utilized primarily as a part of an agricultural drainage or diking system;
- l. Any project with a certification from the governor pursuant to Chapter 80.50 RCW;
- m. Site exploration and investigation activities that are prerequisite to preparation of an application for development authorization under the Act and this Program;
- n. The process of removing or controlling aquatic noxious weeds, as defined in RCW 17.26.020, through the use of an herbicide or other treatment methods applicable to weed control that are recommended by a final environmental impact statement published by the Washington Department of Agriculture or Ecology jointly with other state agencies under Chapter 43.21C RCW;
- o. Watershed restoration projects as defined at WAC 173-27-040(2)(o). Thurston County shall review watershed restoration projects for consistency with this Program in an expeditious manner and shall issue its decision along with any conditions within forty-five days of receiving all materials necessary to review the request for exemption from the applicant. No fee may be charged for accepting and processing requests for exemption for watershed restoration projects as used in this section;
- p. A public or private project that is designed to improve fish or wildlife habitat, including kelp, eelgrass and native oyster restoration, or fish passage, when all of the following apply. The County may not require permits or charge fees for fish habitat enhancement projects that meet the criteria and that are reviewed and approved according to the WAC provisions cited herein:
 - i.. The project has been approved in writing by WDFW;
 - ii. The project has received Hydraulic Project Approval (HPA) from WDFW pursuant to Chapter 77.55 RCW;
 - iii. The County has determined that the project is substantially consistent with this Shoreline Master Program. The County shall make such determination in a timely manner and provide it by letter to the project proponent; and
 - iv. Fish habitat enhancement projects that conform to the provisions of RCW 77.55.181 are determined to be consistent with this Program.
- q. The external or internal retrofitting of an existing structure with the exclusive purpose of compliance with the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12101 et seq.) or to otherwise provide physical access to the structure by individuals with disabilities.

D. Conditional Use Permits, including Administrative Conditional Use Permits

1. The purpose of a Conditional Use Permit (CUP) is to provide flexibility in authorizing uses in a manner consistent with RCW 90.58.020. Accordingly, special conditions may be imposed to prevent undesirable effects of the proposed use and/or to assure consistency of the project with the Act and this Program.
2. CUPs shall be classified as a Type V permit review under Chapter 20.60.020TCC. Where Administrative CUPs are allowed, they shall be classified as a Type I permit review under Chapter 20.60.020 TCC, or a Type II permit if SEPA is required. Unless specified otherwise in this Program, the CUP criteria apply in addition to the applicable SDP criteria, and shall be combined into a single review process.
3. Shoreline CUPs shall be granted only after the applicant can demonstrate compliance with WAC 173-27-160 and this section as follows:
 - a. That the proposed use is consistent with the policies of RCW 90.58.020 and this Program;
 - b. That the proposed use will not interfere with the normal public use of public shorelines and does not conflict with existing water dependent uses;
 - c. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the Comprehensive Plan and this Program;
 - d. That the proposed use will not result in significant adverse effects or a net loss to the shoreline ecosystem functions in which it is to be located;
 - e. That the public interest suffers no substantial detrimental effect;
 - f. That consideration has been given to the cumulative impact of additional requests for like actions in the area and shall not result in substantial adverse effects or net loss of shoreline ecosystem functions. For example, if CUPs were granted for other developments in the area where similar circumstances exist, the total of the conditional uses shall also remain consistent with the use preference policies and shall not produce substantial adverse impacts to the shoreline environment. Consideration shall be demonstrated through preparation of a Cumulative Impacts Report, if requested, that substantially conforms to the applicable provisions of Chapter 19.700 (Special Reports).
 - g. Other uses which are not classified or set forth in this Program may be authorized as conditional uses provided the applicant can demonstrate consistency with the requirements of this section and the applicable requirements of the SMP.
 - h. Uses which are specifically prohibited by this Master Program may not be authorized pursuant to this section.
4. All applications for Shoreline CUPs, including Administrative CUPs, approved by the County shall be forwarded to Ecology pursuant to WAC 173-27-200, for final approval, approval with conditions, or denial. No approval shall be considered final until it has been acted upon by Ecology. No action shall be taken pursuant to a Conditional Use Permit until at least 21 days from the date the Department of Ecology sends Thurston County their determination on the CUP.

E. Variances and Administrative Variances

1. The purpose of a Variance Permit (VAR) is strictly limited to granting relief from specific bulk, dimensional, or performance standards (not uses) set forth in this Program where there are

- extraordinary or unique circumstances relating to the property such that the strict implementation of this Master Program will impose unnecessary hardships on the applicant or thwart the policies set forth in RCW 90.58.020.
2. Variances shall be classified as a Type V permit review under Chapter 24.05.020(A)(3) TCC. Administrative Variances shall be a Type I permit (or Type II if SEPA is required) and may be granted where allowed under the Use and Modifications Matrix or applicable permit requirements.
 3. Variance permits should be granted in circumstances where denial of the permit would result in a thwarting of the policy enumerated in RCW 90.58.020. In all instances, extraordinary circumstances shall be shown and the public interest shall suffer no substantial detrimental effect.
 4. Variance permits for development that will be located landward of the OHWM, except within those areas designated as wetlands pursuant to Chapter 173-22 WAC, may be authorized provided the applicant can demonstrate all of the following:
 - a. That the strict application of the bulk, dimensional or performance standards set forth in Chapters 19.400 and 19.600 of this Program preclude, or significantly interfere with, reasonable use of the property;
 - b. That the hardship described in subsection 1 above is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of this Program, and for example, not from deed restrictions or from the actions of the applicant or a predecessor in title;
 - c. That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the Comprehensive Plan and this Program, will not cause net loss to shoreline ecological functions and does not conflict with existing water dependent uses;
 - d. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;
 - e. That the variance requested is the minimum necessary to afford relief; and
 - f. That the public interest will suffer no substantial detrimental effect.
 5. Variance permits for development and/or uses that will be located waterward of the OHWM or within any wetland as defined in RCW 90.58.030(2)(h), may be authorized provided the applicant can demonstrate all of the following:
 - a. That the strict application of the bulk, dimensional or performance standards set forth in Chapters 19.400 and 19.600 of this Program preclude all reasonable use of the property;
 - b. That the proposal is consistent with the criteria established under subsection 4(a) and 4(b) of this section; and
 - c. That the public rights of navigation and use of the shorelines will not be adversely affected.
 6. In the granting of all Variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if variances were granted to other developments and/or uses in the area where similar circumstances exist, the total of the variances shall remain consistent with the policies of RCW 90.58.020 and shall not cause substantial adverse effects to the shoreline environment. The applicant shall demonstrate such consideration through submittal of a Cumulative Impacts Report, where required (Section 19.700.130).

7. Variances from the Shoreline Use and Modifications Matrix in Section 19.600.105 may be prohibited per WAC 173-27-170(5).
8. All applications for shoreline Variances approved by the County, including Administrative Variances, shall be forwarded to Ecology pursuant to WAC 173-27-200, for final approval, approval with conditions, or denial. No approval shall be considered final until it has been acted upon by Ecology. No action shall be taken pursuant to a Variance Permit until at least 21 days from the date the Department of Ecology sends Thurston County their determination on the VAR.

F. Developments Not Required to Obtain Shoreline Permits or Local Reviews

Requirements to obtain a Substantial Development Permit, Conditional Use Permit, Variance, letter of exemption, or other review to implement the Shoreline Management Act do not apply to the following:

1. Remedial actions. Pursuant to RCW 90.58.355, any person conducting a remedial action at a facility pursuant to a consent decree, order, or agreed order issued pursuant to chapter 70.105D RCW, or to the department of ecology when it conducts a remedial action under chapter 70.105D RCW.
2. Boatyard improvements to meet NPDES permit requirements. Pursuant to RCW 90.58.355, any person installing site improvements for storm water treatment in an existing boatyard facility to meet requirements of a national pollutant discharge elimination system storm water general permit.
3. WSDOT facility maintenance and safety improvements. Pursuant to RCW 90.58.356, Washington State Department of Transportation projects and activities meeting the conditions of RCW 90.58.356 are not required to obtain a Substantial Development Permit, Conditional Use Permit, Variance, letter of exemption, or other local review.
4. Projects consistent with an environmental excellence program agreement pursuant to RCW 90.58.045.
5. Projects authorized through the Energy Facility Site Evaluation Council process, pursuant to chapter 80.50 RCW.
6. Certain activities which may be considered to have a de minimis impact, including but not limited to repairing or replacing individual dock boards (versus a larger project that amounts to greater than 50% replacement), small, non-permanent fire pits, and landscaping retaining walls within already landscaped areas.

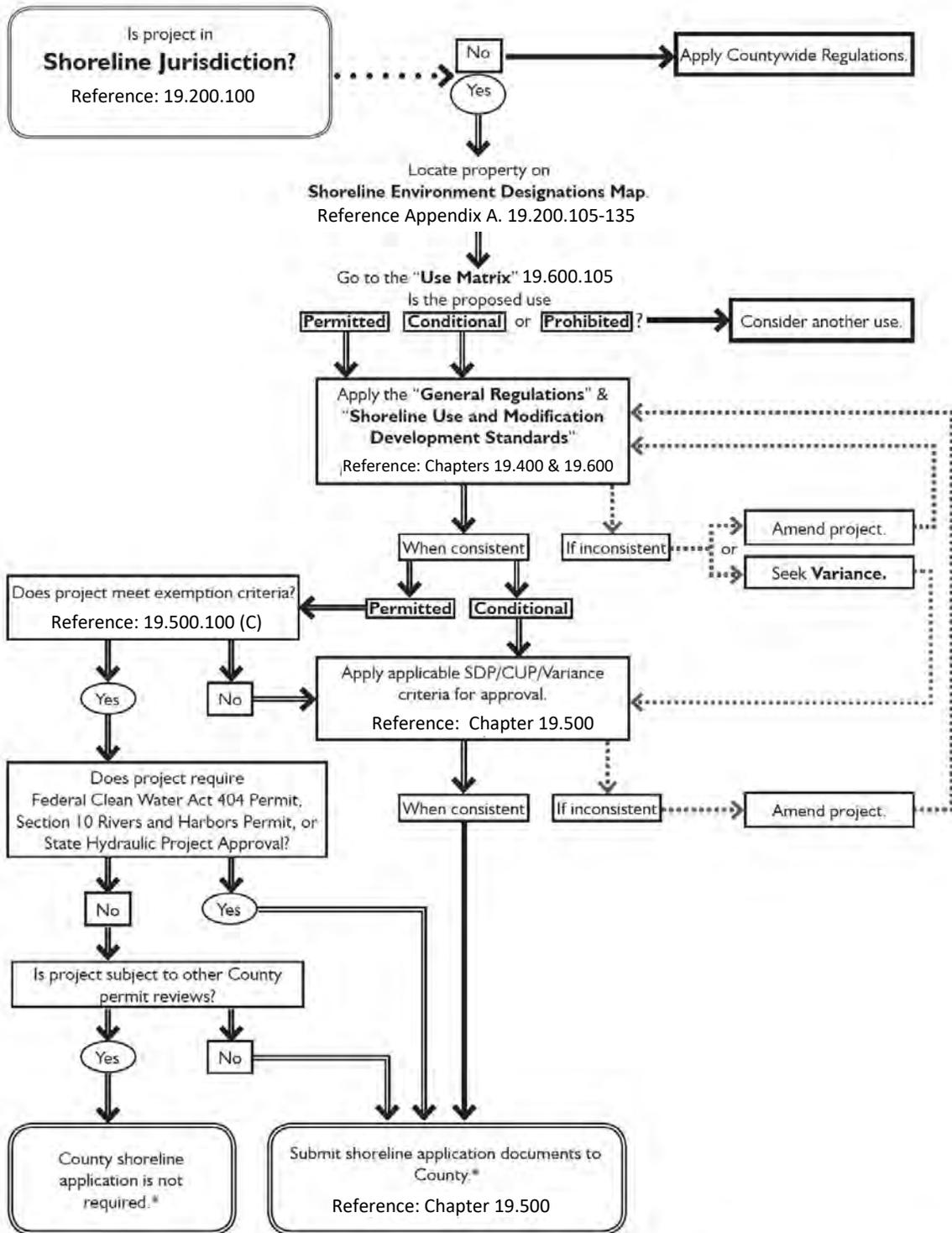
19.500.105 Procedure

A. Permit Process Summary

For informational purposes, a summary of the permit process described below follows and is illustrated on Figure 19.500.105(A):

1. An application for a permit or exemption shall be made on forms prescribed by Thurston County's permit procedures (20.60.020 & 030 TCC).

2. The application shall be made by the property owner or hired representative, lessee, contract purchaser or other person entitled to possession of the property.
3. Where exempt, the permit shall be reviewed pursuant to exemption criteria at WAC 173-27-040 and Section 19.500.100(C) (Exemptions from Substantial Development Permits) above.
4. If not exempt, a pre-application or staff consultation meeting may be required as described below or for new dock proposals as described in Section 19.600.160(B)(1).
5. If the application involves state owned land, a pre-application conference with the Washington Department of Natural Resources land manager shall be held prior to submittal of the application. Confirmation of the pre-application conference shall be submitted as a requirement of the County's application process.
6. For non-exempt proposals, the County shall provide notice of application pursuant to Title 20.60 TCC.
7. A hearing date will be set before the hearing examiner, if required. Notice of the hearing will be provided consistent with Chapter 20.60.TCC.
8. The public hearing, if required, will be conducted pursuant to Chapter 2.06 TCC.
9. Following a decision by the County, the application will be forwarded to Ecology in accordance with the filing procedures at RCW 90.58.140(6) and WAC 173-27-130.



*Other County, state, or federal permits may be required.

Figure 19.500.105(A)(7).Shoreline Application Flow Chart.

B. Pre-submission Conference

1. A pre-submission conference is required for any proposal that requires hearing examiner approval.
2. For leases of overwater structures on state owned aquatic lands managed by Washington Dept. of Natural Resources (DNR), approval will be conditioned in accordance with state standards, including but not limited to buffer requirements.

C. Minimum Application Requirements

A complete application for a project subject to the requirements of this Program shall contain a Master Application and the information contained in 20.60.030 TCC, the Joint Aquatic Resource Permit Application (JARPA) and the State Environmental Policy Act (SEPA) Checklist, as applicable.

1. The applicable permit fees in accordance with the Thurston County Land Use Application Fee Schedule.

D. Notice of Application

Following receipt of a complete application, the County will issue a Notice of Application for non-exempt projects, pursuant to the procedures in Section 20.60.020 TCC. In addition to the requirements of 20.60.020 TCC, the notice of application must provide for a 30-day comment period, and include the date, time and place of public hearing (if applicable and scheduled), in accordance with WAC 173-27-110(2)(e).

E. Public Hearings and Notice of Decision

1. The applicant has the burden of proof to establish that the proposed development is consistent with the Act, this Program, and other applicable county policies and regulations. Upon consideration of the evidence offered at the public hearing, the hearing examiner will issue a decision. The decision will contain findings of fact and conclusions describing the manner in which the decision is consistent with the Act and this Master Program. The decision will be mailed to the applicant and other interested parties, and Ecology. .
2. Hearings shall follow the process as described in Chapter 2.06 TCC. The Hearing Examiner Rules of Procedure shall also serve as reference for the hearing procedure.

F. Initiation of Development

As set forth in WAC 173-27-190, each permit for a substantial development, conditional use or variance, issued by local government shall contain a provision that construction pursuant to the permit shall not begin and is not authorized until twenty-one days from the date of filing as defined in RCW 90.58.140(6) and WAC 173-27-130, or until all review proceedings initiated within twenty-one days from the date of such filing have been terminated.

G. Permit Revisions

1. A permit revision is required whenever the applicant proposes substantive changes to the design, terms or conditions of a project from that which is approved in the permit. Changes are substantive if they materially alter the project in a manner that relates to its conformance to the terms and conditions of the permit, this Program and/or the policies and provisions of the Act.

2. A revision shall be classified per the specifics of the proposed amendments under Chapter 20.60 TCC.
3. When an applicant seeks to revise a permit, the applicant shall submit detailed plans and text describing the proposed changes. If the County determines that the proposed changes are within the scope and intent of the original permit, the County may approve a revision. “Within the scope and intent of the original permit” means all of the following:
 - a. No additional over-water construction is involved except that pier, dock, or float construction may be increased by five hundred square feet or ten percent from the provisions for the original permit, whichever is less;
 - b. Ground area coverage and height of each structure may be increased a maximum of ten percent from the provisions of the original permit;
 - c. The revised permit does not authorize development to exceed height, lot coverage, setback, or any other requirements of this Program except as authorized under the original permit;
 - d. Additional landscaping is consistent with conditions (if any) attached to the original permit and with this Program;
 - e. The use authorized pursuant to the original permit is not changed; and
 - f. No adverse environmental impact and no net loss to shoreline ecological functions will be caused by the project revision.
4. If the sum of the revision and any previously approved revisions violate the provisions in WAC 173-27-100 or the proposed change itself constitutes a substantial development, the applicant shall apply for a new permit in the manner provided for herein rather than proceeding under this section.
5. Administrative appeals of revision decisions shall be processed in accordance with chapter 20.60.060 TCC, in addition to the following:
 - a. Appeals shall be based only upon contentions of noncompliance with the provisions of Section 19.500.105(G)(3) above regarding whether or not the revision was “within the scope and intent of the original permit.”
 - b. If an appeal is successful in proving that a revision is not within the scope and intent of the original permit, the decision shall have no bearing on the original permit.
6. The County’s final approval of the revision, along with the revised site plan, text and the final ruling on consistency with this section shall be filed with Ecology. In addition, the County shall notify parties of record during the original issuance of the permit. The revised permit is effective immediately upon final approval by the County.
7. If the revision to the original permit involves a conditional use or variance that was conditioned by Ecology, the County shall submit the revision to Ecology for its approval, approval with conditions, or denial. The revision shall indicate that it is being submitted under the requirements of WAC 173-27-100. Upon receipt of Ecology’s decision, the County shall notify parties of record of Ecology’s final decision. The revised permit is effective immediately upon final decision by Ecology.

H. Time Requirements and Expiration

1. The time requirements of this section shall apply to all Substantial Development Permits and to any development authorized pursuant to a Shoreline Variance or Conditional Use Permit.

2. Construction activities shall be commenced or, where no construction activities are involved, the use or activity shall be commenced within two years of the effective date of a substantial development permit. A single extension for a period not to exceed one year may be authorized based on reasonable factors, if a request for extension has been filed before the expiration date and notice of the proposed extension is given to parties of record on the Substantial Development Permit and to the Department of Ecology.
3. Authorization to conduct development activities shall terminate five years after the effective date of a SDP. A single extension for a period not to exceed one year may be authorized based on reasonable factors, if a request for extension has been filed before the expiration date and notice of the proposed extension is given to parties of record and to the Department of Ecology.
4. The effective date of a SDP shall be the date of filing as provided in RCW 90.58.140(6). The permit time periods identified herein do not include the time during which a use or activity was not actually pursued due to the pendency of administrative appeals or legal actions or due to the need to obtain any other government permits and approvals for the development that authorize the development to proceed, including all reasonably related administrative or legal actions on any such permits or approvals.
5. Revisions to permits under WAC 173-27-100 may be authorized after original permit authorization has expired so long as this procedure is not used to extend the original permit time requirements or to authorize substantial development after the time limits of the original permit.
6. Thurston County shall notify Ecology in writing of any change to the effective date of a permit, as authorized by this section, with an explanation of the basis for approval of the change. Any change to the time limits of a permit other than those authorized by RCW 90.58.143 as amended shall require a new permit application.

I. Shoreline Master Program Amendment

1. General
 - a. This Master Program carries out the policies of the Act for Thurston County. It shall be reviewed and amended as appropriate in accordance with the review periods required in the Act and in order to:
 - i. Assure that this Program complies with applicable law and guidelines in effect at the time of the review; and
 - ii. Assure consistency of this Program with the County's comprehensive plan and development regulations adopted under Chapter 36.70A RCW, if applicable, and other local requirements.
 - b. This Program and all amendments thereto shall become effective in accordance with RCW 90.58.090(7).
 - c. The Program may be amended annually or more frequently as needed pursuant to the Growth Management Act, RCW 36.70A.130(2)(a)(iii).
 - d. This program, including the official map of areas subject to the program, shall at a minimum be amended every eight years, consistent with RCW 90.58.080(4).

2. Amendment Process and Criteria

- a. **Initiation.** Future amendments to this Program may be initiated by any person, resident, property owner, business owner, governmental or non-governmental agency.
- b. **Application.** Applications for Master Program amendments shall specify the changes requested and any and all reasons therefore. Applications shall be made on forms specified by the County. Such applications shall comply with Section 2.05.025 TCC.
- c. **Public Review Process – Minimum Requirements.** The County shall accomplish the amendments in accordance with the procedures of Act, Growth Management Act, and implementing rules including, but not limited to, RCW 90.58.080, WAC 173-26-100, RCW 36.70A.106 and 130, and Part Six, Chapter 365-196 WAC.
- d. **Roles and Responsibilities.** Proposals for amendment of this Program shall be heard by the Planning Commission in accordance with Section 2.05.030 TCC. Final local review and approval shall be in accordance with Chapter 2.05 TCC.
- e. **Finding.** Prior to approval, and in addition to the findings required by Chapter 2.05 TCC, the County shall make a finding that the amendment would accomplish (e.i) or (e.ii), and would accomplish (e.iii), below:
 - i. The proposed amendment would make this Program more consistent with the Act and/or any applicable Ecology Guidelines;
 - ii. The proposed amendment would make this Program more equitable in its application to persons or property due to changed conditions in an area;
 - iii. This Program and any future amendment hereto shall ensure no net loss of shoreline ecological functions and processes on a programmatic basis in accordance with the baseline functions present as of the effective date of this Program.
- f. Upon local adoption, the Program or its amendment shall be forwarded to Ecology for review and approval in accordance with Chapter 90.58 RCW and WAC 173-26-110.

J. Administrative Interpretation

The County shall make administrative decisions and interpretations of the policies and regulations of this Program and the Act in accordance with Chapter 20.07 TCC. The County shall consult with Ecology to ensure that any formal written interpretations are consistent with the purpose and intent of Chapter 90.58 RCW, and Chapters 173-26 and 173-27 WAC.

K. Monitoring

The County will track all shoreline permits and exemption activities to evaluate whether the Master Program is achieving no net loss of ecological functions. Project monitoring is required for individual restoration and mitigation projects consistent with the critical areas regulations (Section 24.35.017 TCC). In addition, the County shall conduct system-wide monitoring of shoreline conditions and development activity that occur in shoreline jurisdiction outside of critical areas and their buffers, to the degree practical. Activities to be tracked using the County's permit system include development, conservation, restoration and mitigation, such as:

1. New shoreline development
2. Shoreline Variances and the nature of the variance
3. Compliance issues

4. Net changes in impervious surface areas, including associated stormwater management
5. Net changes in fill or armoring
6. Net changes in vegetation (area, character)

Using this information and information about the outcomes of other actions and programs of the other County departments, a no net loss report shall be prepared as part of the Program update required by RCW 90.58.080. Should the no net loss report show degradation of the baseline condition documented in the *Thurston County Shoreline Inventory and Characterization Report* (2013), changes to the Master Program and/or Shoreline Restoration Plan (Appendix C) shall be proposed at the time of the eight-year update to prevent further degradation and address the loss in ecological functions.

19.500.110 Enforcement and Penalties

A. Authority

Thurston County may bring such declaratory, injunctive or other action as may be necessary to assure that no uses are made of the shorelines subject to Thurston County jurisdiction contrary to the provisions of this Program or the Act. Ecology shall also have enforcement authority pursuant to Chapter 90.58 RCW and Chapter 173-27 WAC “Part II Shoreline Management Act Enforcement.”

B. Process

1. Any action taken by Thurston County shall be in accordance with civil enforcement provisions of the Code Enforcement Chapter, Title 26 TCC, as now or hereafter amended, along with the following provisions.
2. The choice of enforcement action and the severity of any penalty should be based on the nature of the violation, the damage or risk to the public or to public resources, and/or the existence or degree of bad faith of the persons subject to the enforcement action.
3. Whenever an authorized official determines that a violation has occurred or is occurring, he or she should pursue reasonable attempts to secure voluntary corrections prior to taking any other action. Failing voluntary correction, the authorized official may issue a notice of violation. Upon receipt of a notice of violation, a person may request a hearing to explain mitigating circumstances surrounding the violation.

C. Civil Penalties

Pursuant to RCW 90.58.210, any person who fails to conform to the terms of a permit issued under this Program or who undertakes development on the shorelines of the state without first obtaining any permit required under this Program shall be subject to a civil penalty not to exceed one thousand dollars for each violation. Each permit violation or each day of continued development without a required permit shall constitute a separate violation.

D. Criminal Penalties

Any person found to have willfully engaged in activities on the shorelines of the state in violation of the Act, this Master Program, or any rules and regulations adopted pursuant thereto, shall be guilty of a gross misdemeanor, pursuant to RCW 90.58.220.

Chapter 19.600 Shoreline Use and Modification Development Standards

19.600.100 Applicability

The provisions in this section apply to specific common uses and modifications and types of development to the extent they occur within shoreline jurisdiction.

19.600.102 General Shoreline Modification Principles

It is the intent of this master program to implement the following principles for all shoreline modifications, per WAC 173-26-231(2):

1. Allow structural shoreline modifications only where they are demonstrated to be necessary to support or protect an allowed primary structure or a legally existing shoreline use that is in danger of loss or substantial damage or are necessary for reconfiguration of the shoreline for mitigation or enhancement purposes.
2. Reduce the adverse effects of shoreline modifications and, as much as possible, limit shoreline modifications in number and extent.
3. Allow only shoreline modifications that are appropriate to the specific type of shoreline and environmental conditions for which they are proposed.
4. Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions. This is to be achieved by giving preference to those types of shoreline modifications that have a lesser impact on ecological functions and requiring mitigation of identified impacts resulting from shoreline modifications.
5. Where applicable, base provisions on scientific and technical information and a comprehensive analysis of drift cells for marine waters or reach conditions for river and stream systems. Contact Ecology for available drift cell characterizations.
6. Plan for the enhancement of impaired ecological functions where feasible and appropriate while accommodating permitted uses. As shoreline modifications occur, incorporate all feasible measures to protect ecological shoreline functions and ecosystem-wide processes.
7. Avoid and reduce significant ecological impacts according to the mitigation sequence in WAC 173-26-201 (2)(e).

19.600.105 Use and Modifications Matrix

Table 19.600.105 Shoreline Use and Modifications Matrix

SHORELINE USES and MODIFICATIONS						
<p><i>The following permits apply to the specific uses, modifications and development. Individual uses, modifications and development shall comply with the provisions of this Program, particularly Section 19.400.110 (Mitigation), and the Thurston County Comprehensive Plan as of the effective date of this Program.</i></p>						
<p>Legend: P = Substantial Development Permit (SDP) AdP= Administrative SDP E= Exempt from SDP if exemption criteria in Section 19.500.100(C) are met C = Conditional Use Permit (CUP) Ad = Administrative CUP X = Prohibited</p>	Natural	Rural Conservancy	Urban Conservancy	Shoreline Residential		Aquatic
Agriculture (19.600.110)						
General ¹	X	P	P	P		X
Aquaculture²⁴ (19.600.115)						
Commercial Geoduck	C	C	C	C		2
Other Aquaculture	P ³	P ³	P ³	P ³		2
Barrier Structures (Includes Breakwaters, Jetties, Groins and Weirs) (19.600.120)						
General	X	C	C	C		2
Ecological Restoration ⁴	P	P	P	P		2
Boating Facilities (including Marinas) (19.600.125)						
General	X	P	P	P		2
Marinas and Buoy Fields	X	P	P	P		2
Commercial (19.600.130)						
Water-Oriented	X	P	P	P		X ⁵
Non-Water-Oriented	X	X ⁶	X ⁶	X ⁶		X ⁶
Dredging (19.600.135)						
General	X	C	C	C		2
Maintenance Dredging of Existing Channels (as described in 19.600.135(C)(4))	E	E	E	E		E
Dredge Disposal (19.600.135)						
General	C	AdP	AdP	AdP		2
Ecological Restoration ⁷	C	AdP	AdP	AdP		2
Fill (19.600.140)						
Waterward of OHWM	X	C	C	C		2
Upland of OHWM	C	P	P	P		2
Ecological Restoration	P	P	P	P		2
Flood Hazard Reduction Measures (19.600.170(B), 19.400.150)						
General	P	P	P	P		P
Nonstructural methods ²⁶	E	E	E	E		N/A

SHORELINE USES and MODIFICATIONS						
<i>The following permits apply to the specific uses, modifications and development. Individual uses, modifications and development shall comply with the provisions of this Program, particularly Section 19.400.110 (Mitigation), and the Thurston County Comprehensive Plan as of the effective date of this Program.</i>						
Legend: P = Substantial Development Permit (SDP) AdP= Administrative SDP E= Exempt from SDP if exemption criteria in Section 19.500.100(C) are met C = Conditional Use Permit (CUP) Ad = Administrative CUP X = Prohibited	Natural	Rural Conservancy	Urban Conservancy	Shoreline Residential		Aquatic
Forest Practices (19.600.145)						
Commercial Forestry	C	P	X	X		N/A
Class IV-General	C	P	P	P		N/A
Industrial (19.600.150)						
Water-oriented Uses	X	X	C	C		X ⁸
Non-water-oriented Uses	X ²⁵	X ²⁵	X ²⁵	X ²⁵		X ²⁵
Mining (19.600.155)						
General	X	C ⁹	X	X		X
Mooring Structures and Activities (Includes piers, docks, floats, ramps and buoys) (19.600.160)						
Single Use Docks (marine) ²⁷	X	P ¹⁰	P ¹⁰	P ¹⁰		2
Single Use Docks (lakes)	AdP	AdP	AdP	AdP		2
Joint or Public Use Docks (marine) ²⁷	X	P	P	P		2
Joint or Public Use Docks (lakes)	AdP	AdP	AdP	AdP		2
Floats (marine)	X	P	P	P		2
Floats (lakes)	E ²⁹	E ²⁹	E ²⁹	E ²⁹		2
Launch Ramps and Rail	X	P	P	P		2
Buoys (marine)	X ¹¹	P ¹⁰	P ¹⁰	P ¹⁰		2
Buoys (lakes)	E ²⁹	E ²⁹	E ²⁹	E ²⁹		2
Boat lifts	X	P	P	P		2
Boat lifts (lakes)	X	AdP	AdP	AdP		2
Recreation and Public Access (19.600.165)						
Non-motorized, Water-Oriented	P	P	P	P		13
Other Water-Oriented	C ¹²	P	P	P		13
Non-Water-Oriented	X	P ¹⁴	P ¹⁴	P ¹⁴		X
Residential (19.600.170)						
Single-Family	Ad	E ¹⁵	E ¹⁵	E ¹⁵		X
Multi-Family and Subdivisions	X ¹⁶	P	P	P		X
Accessory Dwelling Units	X	P	P	P		X
Swimming Pools (in buffers and setbacks)	X	X	X	X		X
Boat houses	X	X	X	X		X

SHORELINE USES and MODIFICATIONS						
<i>The following permits apply to the specific uses, modifications and development. Individual uses, modifications and development shall comply with the provisions of this Program, particularly Section 19.400.110 (Mitigation), and the Thurston County Comprehensive Plan as of the effective date of this Program.</i>						
Legend: P = Substantial Development Permit (SDP) AdP= Administrative SDP E= Exempt from SDP if exemption criteria in Section 19.500.100(C) are met C = Conditional Use Permit (CUP) Ad = Administrative CUP X = Prohibited	Natural	Rural Conservancy	Urban Conservancy	Shoreline Residential		Aquatic
Water-oriented storage structure	X	E ²⁸	E ²⁸	E ²⁸		X
Beach stairs	C	P	P	P		X
Restoration and Enhancement						
General	P	P	P	P		P
Retaining Walls	X	C	C	C		
Shoreline Stabilization (New/Repair and Maintenance) (19.600.175)						
Hard	P	P	P	P		18
Hybrid	P	P	P	P		
Soft	P ¹⁷	P ¹⁷	P ¹⁷	P ¹⁷		19
Transportation (19.600.180)						
General	X ²⁰	C	C	P		p ²¹
Utilities (19.600.185)						
General	X ²²	p ²³	p ²³	p ²³		C

Footnotes:

- Does not modify or limit agricultural activities occurring on lands currently in agricultural use.
- Adjoining upland designation applies; see applicable regulations.
- A CUP shall be required for floating net pens in all areas and for aquaculture activities in the Natural environment designation where the proposal requires new structures or facilities (see section 19.600.115).
- See Barrier Structures and Other In-Stream Structures (Section 19.600.120) for qualifying ecological restoration.
- If the use is water-dependent or necessary to support an allowed use in the adjoining upland designation, then may be permitted through a SDP.
- See Commercial Development (Section 19.600.130) for allowances with a CUP.
- See Dredging and Dredge Disposal (Section 19.600.135) for qualifying ecological restoration.
- If the use is water-dependent or necessary to support an allowed use in the adjoining upland designation, then may be permitted with a CUP.
- Provided consistent with the Thurston County Comprehensive Plan Mineral Resources Overlay 20.30B.
- Single-use buoys are exempt from Substantial Development Permit in certain environments, in accordance with Sections 19.500.100(C)(2)(B); 19.500.100(C)(4)(f); and 19.600.160(A)(1)..
- If the adjoining upland use is a public park, then up to two buoys allowed.
- May be permitted through a SDP if consistent with an approved park plan.
- See Recreation and Public Access (Section 19.600.165) for applicability in the Aquatic designation.
- Non-water-oriented uses shall also be subject to shoreline buffer standards (Section 19.400.120).
- Administrative SDP if single-family residence exemption criteria in Section 19.500.100(C)(4) and WAC 173-27-040 are not met.
- May be permitted through a CUP for subdivisions.
- Soft shore shoreline stabilization is exempt from a SDP if exemption criteria in Section 19.500.100(C)(4)(c) are met.

18. Hard shoreline stabilization prohibited in Aquatic unless demonstrated necessary, then may be permitted with a CUP (see Section 19.600.175).
19. Soft shoreline stabilization may be permitted with a SDP in Aquatic where demonstrated necessary, or through an exemption where criteria are met (see 19.600.175(D)).
20. If necessary to serve essential transportation corridors or in support of permitted uses and activities that cannot be located outside of the natural SED, may be permitted through a CUP (see Section 19.600.180).
21. See Transportation (Section 19.600185) for limitations in Aquatic designation.
22. If essential utilities in support of permitted uses and activities that cannot be located outside of the natural SED, may be permitted with a CUP. Utilities in support of a permitted use shall be reviewed under the permitted use.
23. Utilities associated with an exempt single-family residence and appurtenances are accessory to the development and also "exempt".
24. An SDP shall not be required for aquaculture development that meets the exemption criteria at Section 19.500.100(C). Supplemental seeding activities are also exempt.
25. Non-water oriented industrial development is generally prohibited, unless the development meets the criteria in 19.600.150(B)(3). If the criteria is met, the development shall require a CUP.
26. See applicable standards in section 19.400.150.
27. Private non-commercial docks may be exempt from an SDP if they meet criteria in 19.500.100(C)(4) and WAC 173-27-040.
28. An SDP shall not be required for water-oriented storage structures that meet the exemption criteria of Section 19.500.100(C).
29. SDP if exemption criteria in Section 19.500.100(C) and WAC 173-27-040 are not met.

19.600.110 Agriculture

A. Environment Designations Permit Requirements

Agricultural uses and lands that exist at the time of the adoption of this Program do not need to apply for a permit. Where agriculture is proposed in the following designations the identified permit requirements shall apply:

1. Natural- Prohibited
2. Rural Conservancy and Urban Conservancy- SDP (exempt if the activity meets criteria in 19.500.100(C)(4)(e) and WAC 173-27-040.)
3. Shoreline Residential- SDP (exempt if the activity meets criteria in 19.500.100(C)(4)(e) and WAC 173-27-040.)
4. Aquatic: Prohibited (Farming of fin fish, shellfish and management of other aquatic products are subject to the policies and regulations of Section 19.600.115, Aquaculture).

B. Development Standards

1. Existing Agriculture.
 - a. This section does not require modification of or limit agricultural activities occurring on agricultural lands as of the effective date of this Program.
 - b. Expansion of agricultural activities on existing agricultural lands shall be encouraged to comply with the vegetation conservation standards identified in Section 19.400.120.
2. New agricultural practices below the Standard Buffer and above the Reduced Standard Buffer shall require an approved Farm Management Plan in accordance with United States Department of Agriculture standards. New agricultural structures that impact critical areas will follow requirements in Chapter 24 TCC. New agricultural activities are subject to the following:

- a. New agricultural activities proposed on land not currently in agricultural use, and any modifications in support of such use, shall comply with the following:
 - i. The use or modification is consistent with the environment designation in which the land is located, and
 - ii. The use or modification is located and designed to assure no net loss of ecological functions and in such a way as to not have a significant adverse impact on other shoreline resources and values.
 - b. A native vegetation buffer, consistent with that of the Environment Designation in which the use is occurring shall be permanently maintained between new agricultural activities and the OHWM of the shoreline or wetlands. A fence shall be installed at the outer buffer edge to separate water bodies from livestock pastures.
 - c. Confined Animal Feeding Operations, retention and storage ponds for feed lot wastes, and stock piles of manure solids shall not be allowed within shoreline jurisdiction, unless shoreline ecological functions are mitigated through an approved Farm Management Plan.
 - d. Soil conservation measures, including but not limited to erosion control, crop rotation, mulching, strip cropping, contour cultivation, and best management practices, shall be utilized to minimize soil erosion.
 - e. Aerial spraying of fertilizers, pesticides, or herbicides over waterbodies is prohibited.
 - f. No fertilizers, pesticides or herbicides shall be used in agricultural practices unless the applicant can demonstrate that the application of such substances will not result in the direct runoff of contaminated waters into water bodies or aquifer-recharge areas.
 - g. The applicant may be required to submit a soil study and drainage plan in order to determine that the agricultural practices meet the regulations set forth above.
3. Non-agricultural Activities on Long Term Agricultural Land. The use of agricultural land for development that does not meet the definition of agricultural activities, including the conversion of agricultural land to non-agricultural uses, shall be consistent with the environment designation and the general and specific regulations applicable to the proposed use, and shall result in no net loss of ecological functions associated with the shoreline.
 4. The purposeful suspension of agricultural activities in order to allow land to lay fallow shall not constitute an abandonment of agricultural activities.

19.600.115 Aquaculture

A. Environment Designations Permit Requirements

Where aquaculture is proposed in the following upland designations, the identified permit requirements shall apply. Where proposed in the adjacent aquatic designation, the corresponding upland designation shall be used to determine permit requirements:

1. Shoreline Residential, Urban Conservancy, Rural Conservancy, and Natural: Except as otherwise stated in this section, an SDP shall be required for new aquaculture activities that meet the definition of substantial development under the Shoreline Management Act and this Shoreline Master Program. Exempt if definition of substantial development in Section 19.150.770 is not met.
2. Natural: A CUP shall be required where the proposal requires a new structure or facilities.
3. Geoduck aquaculture in all designations:

- a. A CUP shall be required for all new commercial geoduck aquaculture and an administrative CUP for existing aquaculture being converted to commercial geoduck aquaculture;
 - b. An SDP shall be required for the planting, growing and harvesting of farm-raised geoducks only if the specific project or practice causes substantial interference with normal public use of the surface waters.
 - c. Wildstock geoduck harvest associated with the state and tribal co-managed geoduck fishery is not aquaculture. Since a fishery does not constitute development under this Program, it is not subject to its regulations.
4. Certain aquaculture developments and supplemental wild stock seeding may be exempt from SDP requirements pursuant to the exemption criteria in Section 19.500.100(C) of this Program. Such activities shall also comply with all state and federal requirements, including but not limited to Department of Health certification and license, or Shellfish Import or Shellfish Transfer permits, where applicable.

B. Application Requirements

In addition to the minimum application requirements in Section 19.500.105(C), aquaculture applications shall include the following information if not already provided in the local, state or federal permit applications. Where requested information is not applicable to a specific proposal, the application shall not be required to include all items listed under this section as long as it is demonstrated why the information does not apply, with concurrence from the Department.

1. A site plan, including:
 - a. The perimeter of the proposed aquaculture operation area;
 - b. Existing bathymetry depths based on mean lower low water (MLLW datum);
 - c. Adjacent upland use, vegetation, presence of structures, docks, bulkheads and other modifications;
 - d. Areas where specific substrate modification will take place or structures will be constructed or installed;
 - e. Access provisions for marine or vehicle traffic, processing structures or facilities; and
 - f. Location of storage or processing structures or facilities.
2. A baseline description of existing and seasonal conditions, including best available information. Where applicable to the subject proposal, the following should be included if already part of information submitted for another federal or state agency.
 - a. Water quality;
 - b. Tidal variations;
 - c. Littoral drift;
 - d. Sediment dispersal, including areas of differing substrate composition;
 - e. Areas of aquatic, intertidal and upland vegetation complexes; a vegetation habitat survey (see Section 8.10, Biological and Habitat Surveys) must be conducted according to the most current WDFW eelgrass and macroalgae survey guidelines;
 - f. Aquatic and benthic organisms present, including forage fish, and spawning and other lifecycle use of, or adjacent to, the site;
 - g. Probable direct, indirect and cumulative impacts to items 2.a.-f. above; and
 - h. Visual assessment, including photo analysis / simulation of the proposed activity demonstrating visual impacts within 1,500 feet of the proposed project site. Where

predator exclusion devices are proposed, the assessment shall include an analysis of visual impacts of proposed predator exclusion devices at mean high and mean low tides.

3. An operational plan, which includes the following, when applicable should be included if already part of information submitted for another federal or state agency.:
 - a. Species, and quantity to be reared;
 - b. Source of aquatic product;
 - c. Implementation methods, including density, schedule, phasing options, time of day, and anticipated lighting and noise levels;
 - d. Number of employees/workers necessary for the project, including average and peak employment;
 - e. Methods and location of waste disposal and sanitation facilities;
 - f. Methods for planting and harvest;
 - g. Methods for predation control, including types of predator exclusion devices;
 - h. Food and equipment storage;
 - i. Anticipated use of any feed, herbicides, antibiotics, vaccines, growth stimulants, antifouling agents, or other chemicals and an assessment of predicted impacts;
 - j. Methods to address pollutant loading, including biological oxygen demand (BOD);
 - k. A schedule for water quality monitoring, where required;
 - l. For geoduck aquaculture, management practices that address impacts from mooring, parking, noise, lights, litter, and other activities associated with geoduck planting and harvesting operations.
 - m. Other measures to achieve no net loss of ecological functions consistent with the mitigation sequence described in WAC173-26-201(2)(e).

4. Other applications and reports, when applicable or requested depending on site specific details determined during permit review, to ensure compliance with permit conditions, which may include:
 - a. An accepted Washington Department of Natural Resources lease application, including a waiver of preference rights to access for navigation from the upland property owner, if applicable;
 - b. An accepted Washington Department of Ecology National Pollutant Discharge Elimination System (NPDES) permit, if applicable;
 - c. An accepted Washington Department of Health beach certification number;
 - d. An accepted WDFW aquatic farm permit, and/or fish transport permit;
 - e. Water quality studies;
 - f. Reports on solids accumulation on the bottom resulting from the permitted activity along with its biological effects;
 - g. Report on growth, productivity, and chemical contamination of shoreline plants and animals within or adjacent to the proposed site;
 - h. Noise level assessments, including mitigation measures to ensure compliance with Chapter 10.36 & 10.38 TCC; and/or
 - i. Monitoring and Adaptive Management Plan for introduction of aquatic species not previously cultivated in Washington State.

C. Development Standards

1. General Standards.

- a. Aquaculture is dependent on the use of the water area and, when consistent with control of pollution and prevention of damage to the environment, is a preferred use of the water area.
- b. Proposed residential subdivisions and other land uses and developments which may impact aquaculture operations shall provide facilities to prevent any adverse water quality impacts to such operations.
- c. Site preparation and construction in the vicinity of aquaculture operations shall not result in off-site erosion, siltation, or other reductions in water quality.
- d. When a shoreline substantial development or conditional use permit is issued for a new aquaculture use or development, that permit shall apply to the initial siting, construction, and planting or stocking of the facility or farm. Authorization to conduct such activities shall be valid for a period of five years with a possible extension per Section 19.500.105(H) of this Program. After an aquaculture use or development is established under a shoreline permit, continued operation of the use or development, including, but not limited to, maintenance, harvest, replanting, restocking or changing the culture technique shall not require a new or renewed permit unless otherwise provided in the conditions of approval, or if required pursuant to permit revision criteria in WAC 173-27-100 or this Program. Changing of the species cultivated shall be subject to applicable standards of this Program, including, but not limited to, monitoring and adaptive management in accordance with standard g, below.
- e. Both shellfish and net pen aquaculture undergo periods of dormancy. Periods of dormancy vary with the type of aquaculture and specific situation, and may last from months to many years. Dormancy may occur due to crop rotation or fallowing, state or federal permit requirements, pest infestations, state water quality closures, seed availability, market fluctuations, or other factors beyond the control of the operator. Periods of aquaculture dormancy should not be considered abandonment.
- f. The determination of when aquaculture is abandoned shall be made case-by-case in consultation with the operator. In its determination, the County shall consider such factors as whether the property was acquired under the Bush or Callow Acts of 1895, the use of crop rotation and fallowing, state or federal permit requirements, pest infestations, seed or juvenile availability, market fluctuations, and pollution of the farm site from other uses or developments.
- g. Aquaculture shall not be permitted in areas where it would result in a net loss of shoreline ecological functions, or where adverse impacts to critical saltwater and freshwater habitats cannot be mitigated according to the mitigation sequencing requirements of this Program (see Section 19.400.100(A)).
- h. Aquaculture shall not significantly conflict with navigation and other water-dependent uses.
- i. Aquaculture activities proposed within Shorelines of statewide significance shall first be subject to the policies for shorelines of statewide significance contained in Chapter 19.300 (General Goals and Policies) of this Program, and then the policies and regulations contained in this section, in that order of preference.
- j. In general, when considering new aquaculture activities, refer to policies at Section 19.300.130(E-K) for siting and design preferences.
- k. Project applicants proposing to introduce aquatic species that have not previously been cultivated in Washington State are responsible for pursuing required state and federal approvals relating to the introduction of such species, as determined by applicable state and federal agencies. A plan for monitoring and adaptive management shall also be submitted for County review. The County shall provide notice and time to comment for appropriate agencies in accordance with County procedural requirements, and shall

- circulate the monitoring and adaptive management plan. Upon approval, the plan shall become a condition of project approval.
- l. Over-water structures and/or equipment, and any items stored upon such structures such as materials, garbage, tools, or apparatus, shall be designed and maintained to minimize visual impacts. The maximum height for items stored upon such structures shall be limited to three feet, as measured from the surface of the raft or the dock, unless shoreline conditions serve to minimize visual impacts (for example: high bank environments, shorelines without residential development), but in no case shall the height exceed six feet. Height limitations do not apply to materials and apparatus removed from the site on a daily basis. Materials that are not necessary for the immediate and regular operation of the facility shall not be stored waterward of the OHWM.
 - m. Aquaculture structures and equipment used on tidelands below ordinary high water shall be of sound construction, with the owners' identifying marks where feasible, and shall be so maintained. Abandoned or unsafe structures and/or equipment shall be promptly removed or repaired by the owner.
 - n. No processing of any aquaculture product, except for the sorting and culling of the cultured organism and the washing or removal of surface materials or organisms after harvest, shall occur in or over the water unless specifically approved by permit. All other processing and related facilities shall be located on land and shall be subject to the regulations for Commercial) and Industrial Uses (Section 24.10.100), in addition to the provisions of this section.
 - o. No garbage, wastes or debris shall be allowed to accumulate at the site of any aquaculture operation, except for in proper receptacles.
 - p. All floating and submerged aquaculture structures and facilities in navigable waters shall be marked in accordance with U.S. Coast Guard requirements.
 - q. The rights of treaty tribes to aquatic resources within their usual and accustomed areas are addressed through direct coordination between the applicant/proponent and the affected tribe(s). Thurston County will notify affected tribes of new shoreline permit applications utilizing the applicable notification process in Title 20.60 TCC.
 - r. In order to avoid or limit the ecological and aesthetic impacts from aquaculture siting and operations, predator exclusion devices shall meet the following standards:
 - i. Devices shall be firmly attached or secured so as not become dislodged.
 - ii. Devices shall blend with the natural environment.
 - iii. Aquaculture operators shall routinely inspect and maintain predator exclusion devices.
 - iv. Devices such as rubber bands, small nets, and area netting can be dislodged and pose a hazard to birds, marine mammals, and other wildlife and domestic animals, and thus are subject to Thurston County Public Nuisance regulations (Chapter 10 TCC).
 - v. Devices shall be removed as soon as they are no longer needed to perform protective functions.
 - vi. Predator exclusion methods shall not be designed to intentionally kill or injure wildlife. Predator exclusion methods shall comply with federal and state regulations as determined by applicable federal and state agencies.
 - s. When determined necessary to minimize aesthetic and habitat impacts of large-scale projects, the County may require a phased approach to operation. This includes planting and harvesting areas on a rotational basis within the same tideland parcel.

- t. Where aquaculture occurs on state owned aquatic lands, the project proponent shall contact Washington Department of Natural Resources and adhere to that agency's requirements, including obtaining an aquatic lands lease as required.
2. Additional Standards for Commercial Geoduck Aquaculture.
 - a. In addition to the general development standards above, commercial geoduck aquaculture shall only be allowed where sediments, topography, land and water access support geoduck aquaculture operations without significant clearing or grading.
 - b. All permits shall take into account that commercial geoduck operators have the right to harvest geoduck once planted.
 - c. All subsequent cycles of planting and harvest shall not require a new CUP, subject to WAC 173-27-100.
 - d. A single CUP may be submitted for multiple sites within an inlet, bay or other defined feature, provided the sites are all under control of the same applicant and within the Program's jurisdiction.
 - e. Commercial geoduck aquaculture workers shall be allowed to accomplish on-site work during low-tides, which may occur at night or on weekends. Where such activities are necessary, noise and light impacts to nearby residents shall be mitigated to the greatest extent practicable.

3. Additional Standards for Net Pens. Fish net pens and rafts shall meet the following criteria:

Note: The Planning Commission is interested in public comment regarding development standards for net pens and mussel rafts. Options under consideration include modifying or removing standards for net pens, or including specific development standards for mussel rafts. A memo prepared on this topic may be accessed [here](#). It included a list of permit conditions that were applied to an approved mussel raft project. The Planning Commission may choose to require these or other conditions for new mussel raft operations, including but not limited to the following. Any new net pen or mussel raft operations would also be subject to the general development standards that apply to all aquaculture uses:

- Arranging rafts parallel to tidal currents to minimize distance over which water currents are affected.
- Employ best management practices to maintain water quality (such as for siting, configuration, pen set-up and cleaning, harvest timing and techniques).
- Minimize disturbance of marine mammals during maintenance and harvest.
- Store plastic disks on land, not on water craft or rafts. Install nets to catch disks that fall off.
- Do not store nets on beach.
- Take measures to prevent marine mammals from using rafts as rookeries.
- Keep rafts clean, especially of odor causing substances.
- Minimize disturbance of marine mammals during maintenance and harvest operations.
- Separate rafts and access via workboat.
- Relocate rafts within site every few years.
- Keep rafts neat and orderly. Provide contact information to interested property owners to allow complaints to be received. Respond promptly to complaints and take measures to comply with this provision. If any person believes applicant is not complying, they may request that the County or DOE take action.
- Submit a monitoring plan for any issues of concern identified during application review.

- a. Fish net pens shall meet, at a minimum, state approved administrative guidelines for the management of net pen cultures. In the event there is a conflict in requirements, the more restrictive shall prevail.
- b. Alternative facilities and technologies that reduce ecological and aesthetic impacts shall be preferred to traditional floating net pens.
- c. Anchors that minimize disturbance to substrate, such as helical anchors, shall be employed.
- d. Net pen facilities shall be located no closer than 1,500 feet from the OHWM, unless a specific lesser distance is determined to be appropriate based upon a visual impact analysis or due to potential impacts to navigational lines.
- e. Net cleaning activities shall be conducted on a frequent enough basis so as not to violate state water quality standards.
- f. In the event of a significant fish kill at the site of the net pen facility, the facility operator shall submit a timely report to the Thurston County Environmental Health Section and

the Thurston County Community Planning and Economic Development Department stating the cause of death and shall detail remedial action(s) to be implemented to prevent reoccurrence.

- g. New floating net pens shall only be permitted for species native to Washington state in Thurston County's South Puget Sound jurisdictional area until updates to Ecology's guidance on managing commercial finfish aquaculture is completed and can be reviewed by county staff to evaluate possible environmental benefits and impacts.
- h. Existing net pen operations with nonnative species may convert to native species cultivation at the expiration of their current lease, subject to Washington Department of Natural Resources permit approval.

19.600.120 Barrier Structures and In-stream Structures

A. Environment Designations Permit Requirements

Where barrier structures or in-stream structures are proposed in the following upland designations, the following permit requirements shall apply. Where proposed in the adjacent aquatic area, the corresponding upland designation shall be used to determine permit requirements.

- 1. Natural: Prohibited.
- 2. Shoreline Residential, Urban Conservancy, Rural Conservancy: CUP, except as otherwise stated in this section.
- 3. All designations: An SDP shall be required for barrier structures or in-stream structures that have ecological restoration as the primary purpose.

B. Application Requirements

- 1. In addition to the general permit requirements, applications for breakwaters, jetties and groins shall include the following information:
 - a. Reason for the project;
 - b. Type of construction;
 - c. Method of construction;
 - d. Direction of net long-shore drift;
 - e. Location of the barrier structure; and
 - f. Notification of affected property owners, to include at minimum all property owners downdrift of the project in the drift cell, unless reviewed and approved otherwise by the County.
- 2. In addition to the general permit requirements, applications for weirs and other in-stream structures shall contain, at a minimum, the following:
 - a. Hydrogeological Report (see Section 19.700.125), prepared by a licensed professional engineer, which sufficiently describes the project's effects on stream-way hydraulics, including potential for re-direction of the normal flow of the affected stream.
 - b. Habitat surveys, prepared by a professional biologist consistent with Section 19.700.145, which sufficiently describes the project's effects on fisheries and wildlife resources.
 - c. Provision for erosion control, and protection of water quality and fishery and wildlife resources during construction.

- d. Long-term management plans, which describe, in sufficient detail, provisions for protection of in-stream resources during construction and operation. The plan shall include a means for monitoring success.

C. Development Standards

1. When located waterward of the OHWM, barrier structures and other in-stream structures shall be allowed only where necessary to support:
 - a. Water-dependent uses
 - b. Public access
 - c. Public facilities or utilities; and/or
 - d. Existing or restored natural features, with special emphasis on protecting and restoring priority habitats and species, but only where part of an approved restoration plan.
2. Structures shall be designed to protect critical areas, shoreline processes and ecological functions, fish and wildlife passage, natural character/scenery, and cultural resources, and shall provide for mitigation according to the sequence defined in Sections 19.300.105 (Critical Areas and Ecological Protection) and 19.400.110 (Mitigation) of this Program.
3. Structures shall be the minimum size necessary to achieve the intended purpose.
4. Floating breakwaters shall be utilized instead of solid fill breakwaters, except where proven infeasible.
5. Consideration shall be given to avoiding or minimizing land use conflicts to properties adjacent to the proposed site, whether upstream/up-drift or downstream/down-drift.
6. Barrier and other in-stream structures shall not be constructed with waste materials such as demolition debris, derelict vessels, tires, concrete or any other materials which might have adverse toxic or visual impacts on shoreline areas.
7. Barrier and other in-stream structures shall be readily discernible under normal daylight conditions to the unaided eye at a minimum distance of one hundred yards and must be marked for night-time visibility.

19.600.125 Boating Facilities

Boating facilities are public and private mooring structures and related services serving five or more boats, including piers, docks, buoys, floats, marinas, and facilities for the use of boat launching, boat storage, or for the service and maintenance of pleasure or commercial craft. This section applies to such facilities. Mooring structures and activities for fewer than five boats are addressed in section 19.600.160.

A. Environment Designations Permit Requirements

Where boating facilities are proposed in the following upland designations, the identified permit requirements shall apply. Where proposed in the adjacent aquatic area, the corresponding upland designation shall be used to determine permit requirements:

1. Natural: Prohibited

2. Rural Conservancy, Urban Conservancy, Shoreline Residential:
 - a. Boating facilities designed for 5-9 vessels, marinas serving 10 or more vessels, and buoy fields: SDP

B. Application Requirements

In addition to the general permit requirements, the applicant shall be required to submit the following information, unless the applicant can demonstrate that portions of the following are not applicable to the proposed boating facility, and the Department concurs:

1. A study of water quality, water circulation and flushing;
2. A survey of littoral drift and shoreform processes;
3. A benthic and habitat study;
4. A petroleum handling and storage management plan;
5. An emergency management plan, to include fire protection and hazard response;
6. A visual impact assessment;
7. Waste and sewage disposal plan;
8. Speed limits;
9. Noise levels;
10. Lighting and signage;
11. Size, scale, and building materials;
12. Public or private use;
13. Parking and circulation;
14. Distance to the nearest boating facility

C. Development Standards

1. General Regulations.
 - a. All boating facilities must conform to the requirements for Mooring Structures (Section 19.600.160).
 - b. Dredging for boating facilities shall conform to the requirements for Dredging and Dredge Disposal (Section 19.600.135).
 - c. Boating facilities and their associated and accessory uses shall result in no net loss of shoreline ecological functions.
 - d. Boating facilities shall be located, designed, and maintained to be compatible with abutting land uses and the prevailing community character to the greatest extent feasible. Aesthetic impacts must be avoided, or mitigated where avoidance is not feasible.

- e. Boating facilities must meet applicable federal and state health, safety, and welfare requirements. This shall include, but not be limited to, the Thurston County Board of Health Sanitary Code (Article IV), and the Thurston County Board of Health Sanitary Code (Article VI). In addition, notice of permit application shall be provided to the Washington State Department of Health in order to ensure consistency with state health regulations for shellfish harvest.
 - f. Boating facilities shall protect the rights of navigation.
 - g. Boating facilities shall avoid impacts to littoral drift. Where impacts cannot be avoided, mitigation shall be required.
 - h. All non-water-dependent structures shall be located landward of the OHWM.
2. Marinas.
- a. In evaluating an application for a marina, consideration shall be given to water quality, water circulation and flushing, aquatic life, petroleum handling and storage, fire codes, public access and compatibility with other uses.
 - b. New marinas shall incorporate public access pursuant to WAC 173-26-221(4). Examples of public access may include pocket beaches, fishing piers, viewing platforms and transient moorage slips.
 - c. Accessory parking, transportation facilities, and commercial development shall meet the requirements of Sections 19.600.180 and 19.600.130, respectively.
 - d. Marinas shall provide an operational plan. At a minimum, the operational plan shall address all of the following:
 - i. Adequate facilities and operational procedures for fuel handling and storage in order to prevent accidental spillage.
 - ii. Facilities, equipment and established procedures for the containment, recovery, and mitigation of spilled sewage, petroleum and other hazardous materials.
 - iii. Signs concerning the following matters where they are readily visible to all marina users:
 - 1. Regulations pertaining to handling and disposal of waste, sewage, or other toxic materials;
 - 2. Regulations prohibiting the disposal of fish or shellfish wastes, scrapfish, viscera or unused bait in or near the marina;
 - 3. Location of all public access facilities and pump-out devices.
 - iv. Garbage or litter receptacles, including provisions for recycling waste shall be provided and maintained by the marina operator at several locations convenient to users.
 - e. Additional standards for marinas.
 - i. The dock facilities shall be equipped with adequate lifesaving equipment such as life rings, hooks and ropes.
 - ii. Adequate fire protection shall be required pursuant to the Washington State Uniform Fire Code.
 - iii. Swimming shall be prohibited within marina facilities unless the swimming area is adequately separated and protected.
 - iv. If dredging at marina entrances changes the littoral drift processes or adversely affects adjacent shores, the marina operator shall be required to replenish these shores periodically with the appropriate quantity and quality of aggregate, subject to applicable permits and with written approval of the Director or designee.
 - v. Marina facilities permitted under this Program shall provide upland restrooms available twenty-four hours a day for use by any patron of the marina facility. At a minimum, the facilities shall include one urinal, one toilet, and one washbasin

- for men and two toilets and two washbasins for women. The need for additional facilities shall be determined based on the number of slips, percentage of live-aboard moorages, and the number of transient moorage slips within the marina.
- vi. All pipes, plumbing, fuel lines, wires and cables at a marina site shall be placed at or below ground and dock levels.
 - vii. Marinas are permitted to moor live-aboard vessels provided the marina meets the following conditions:
 - 1. The slips assigned to live-aboards are designed and constructed to handle the anticipated moorage loads of live aboard vessels;
 - 2. Sewer hook-ups for live-aboard vessels or upland bathroom facilities to accommodate the number of live-aboards within the facility;
 - 3. No more than ten percent of the surface area of the marina or ten percent of the slips, whichever is less, is devoted to live-aboard vessels;
 - 4. In addition to required marina parking, two parking stalls are to be provided for each live-aboard vessel;
 - 5. If pets are to be allowed, a pet exercise area shall be provided. Marina operators are encouraged to provide such pet exercise areas for pets of live-aboard residences and transient boaters; and
 - 6. Marina operators execute a lease, contract or deed which establishes permission to use a particular slip for a stated period of time and which establishes conditions for use of the slip such as adherence to marina best management practices, and including the requirement that all boats meet applicable state or federal water-quality and sanitation requirements.

19.600.130 Commercial Development

A. Environment Designations Permit Requirements

Where commercial development is proposed in the following upland or aquatic designations, the identified permit requirements shall apply:

- 1. Natural- Prohibited
- 2. Urban Conservancy, Rural Conservancy, and Shoreline Residential:
 - a. Water-oriented commercial activities: SDP;
 - b. Non-water-oriented uses: Prohibited, except CUP for uses described in Section 19.600.130(B)(8)
- 3. Aquatic: Prohibited, unless the activity is water-dependent or a necessary accessory to a use allowed in the adjoining upland designation, then a CUP.

B. Development Standards

- 1. Commercial development shall result in no net loss of shoreline ecological functions or have significant adverse impact to other shoreline uses, resources and values provided for in RCW 90.58.020, such as navigation, recreation and public access.
- 2. Commercial developments shall be permitted on the shoreline in descending order of preference. The applicant shall demonstrate that a more preferred use is not feasible when proposing a less preferred use.

- a. Water-dependent uses;
 - b. Water-related uses;
 - c. Water-enjoyment uses;
 - d. Non-water-oriented uses that include substantial opportunities for public access and subject to a CUP.
3. Commercial development shall not significantly impact views from upland properties, public roadways, or from the water.
 4. The design and scale of a commercial development shall be compatible with the shoreline environment. The following criteria will be used to assess compatibility:
 - a. Building materials
 - b. Site coverage
 - c. Height
 - d. Density
 - e. Lighting, signage, and landscaping
 - f. Public access
 - g. Visual assessment
 5. The County shall consider public access and ecological restoration as potential mitigation of impacts to shoreline resources and values for all water-related or water-dependent commercial development, unless such improvements are demonstrated to be infeasible or inappropriate. Public access shall be provided consistent with Section 19.400.145 of this Master Program. In-kind mitigation shall be determined infeasible prior to utilizing out-of-kind mitigation.
 6. Non-water-dependent commercial uses shall not be allowed over water except in existing structures or in the limited instances where they are auxiliary to and necessary in support of water-dependent uses.
 7. Parking shall be located upland of the commercial use and designed to minimize adverse visual impacts to the shoreline. Over-water parking is prohibited.
 8. Non-water-oriented commercial uses are prohibited unless:
 - a. The use is on land designated commercial by the Thurston County Comprehensive Plan and is physically separated from the shoreline by another property or public right-of-way; or
 - b. The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Act's objectives, such as providing ecological restoration and public access. Water-dependent components of the project and ecological restoration and access shall be improved prior to occupancy; or
 - c. The use is on a site where navigability is severely limited and the use would provide a significant public benefit with respect to the Act's objectives, such as providing public access and ecological restoration.

Non-water-oriented commercial uses meeting these criteria must obtain a CUP.

C. Redevelopment

1. When commercial redevelopment involves relocating or expanding the existing structure, shoreline restoration or mitigation shall be a condition of approval (see Appendix B). Restoration may include, but is not limited to:
 - a. Moving the structure away from the shoreline;
 - b. Removing any shoreline armoring or replacing hard with soft armoring;
 - c. Riparian vegetation restoration, including removing invasive and planting natives;
 - d. Stormwater retrofits to implement Low Impact Development.
2. When commercial redevelopment involves relocating or expanding the structure, public access shall be a condition of approval, unless infeasible due to health or safety issues. Public access may include, but is not limited to:
 - a. Maintaining and enhancing current public access, if existing;
 - b. Connecting a trail to existing public access on adjacent property;
 - c. Providing for visual access to the shoreline.

19.600.135 Dredging and Dredge Disposal

A. Environment Designations Permit Requirements

Where dredging is proposed in the following upland designations, the identified permit requirements shall apply. Where proposed in the adjacent aquatic designation, the corresponding upland designation shall be used to determine permit requirements.

Dredging:

1. Natural: Prohibited, unless for purposes of ecological restoration (as defined in this section), then with a CUP.
2. Shoreline Residential, Urban Conservancy and Rural Conservancy: CUP, unless for purposes of ecological restoration (as defined in this section), then with a SDP.
3. All Designations: Dredging waterward of the OHWM for the primary purpose of obtaining fill material shall not be permitted, except as allowed under Section 19.600.135(C)(5), below.
4. All Designations: Maintenance dredging of established navigation channels and basins, as described in this section, shall be exempt from requiring a SDP.

Dredge Disposal (General and Ecological Restoration):

1. Natural: CUP.
2. Shoreline Residential, Urban Conservancy and Rural Conservancy: Administrative SDP.

B. Application Requirements

In addition to the general permit requirements, applications for dredging shall include the following information:

1. An analysis of materials to be dredged, including a habitat survey (Section 19.700.145) and sediment analysis;
2. Time of dredging;
3. Method of dredging and disposal, including a description of water quality best management practices;
4. Location and stability of bedlands adjacent to proposed dredging area;
5. Location, size, capacity and physical characteristics of spoils disposal area;
6. Quantity of material to be removed as specified in SEPA application and/or grading permit.
7. An explanation of why the dredging is necessary.

C. Development Standards

1. Dredging and dredge material disposal shall only be allowed when there is no feasible alternative, when the purpose is consistent with those listed in WAC 173-26-231 (3)(f), and when conducted in a manner which avoids and minimizes significant ecological impacts. Impacts which cannot be avoided and minimized shall be mitigated in a manner that assures no net loss of shoreline ecological functions.
2. Dredging for the purpose of establishing, expanding, relocating or reconfiguring navigation channels and basins shall be allowed when necessary for assuring safe and efficient accommodation of existing navigational uses and then only when significant ecological impacts area minimized and when mitigation is provided.
3. Dredging for the purpose of ecological restoration may be allowed when the project is primarily serving to restore degraded ecological functions or ecosystem-wide processes. Suitable dredge material may be used for beach nourishment or to enhance public access when there are no other alternatives, or when documented as a beneficial use in rivers as part of an approved ecological restoration project.
4. Maintenance dredging of established navigation channels and basins shall be restricted to maintaining previously dredged and/or existing authorized location, depth, and width. Such activities shall be exempt from permit procedures when such proposals meet the criteria for normal maintenance or repair (Section 19.500.100(C)(4)(b) & WAC 173-27-040(2)(b)).
5. Dredging waterward of the OHWM for the primary purpose of obtaining fill material shall not be allowed, except when the material is necessary for a project to restore ecological functions waterward of the OHWM. Such project shall either be associated with a Model Toxics Control Act (MTCA) or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) habitat restoration project, or, if approved through a CUP, a significant habitat enhancement project.
6. Deposition of dredge material below ordinary high water shall be allowed only at those Puget Sound dredge disposal sites approved by the Dredged Material Management Program (DMMP) representing the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Washington Department of Ecology, and Washington Department of Natural Resources.

7. Disposal of dredge material on shorelands or wetlands within a river's or stream's channel migration zone shall not occur, except as authorized by CUP as a part of a shoreline restoration project.
8. Disposal of contaminated dredge materials, not suitable for open water disposal, and otherwise regulated by Section 404 of the Federal Clean Water Act, shall occur only at permitted solid waste or dangerous waste disposal facilities.

19.600.140 Fill

A. Environment Designations Permit Requirements

Where fill is proposed in the following upland designations, the identified permit requirements shall apply. Where proposed in the adjacent aquatic designation, the corresponding upland designation shall be used to determine permit requirements.

1. Natural: Prohibited, except for restoration purposes as noted below;
 - a. Prohibited for fill waterward of the OHWM for any use except restoration.
 - b. CUP for fill landward of the OHWM.
2. Shoreline Residential, Urban Conservancy, Rural Conservancy:
 - a. CUP for fill waterward of the OHWM for any use except ecological restoration.
 - b. SDP for fill landward of the OHWM.
3. All Designations: SDP if for ecological restoration where restoration is the primary purpose for the activity.
4. All Designations: Any fill quantity in critical areas (and their buffers) or fill quantity in excess of 50 cubic yards outside of critical areas shall also require a Grading Permit pursuant to Title 20, 21, 22, and 23 TCC as now or hereafter amended.

B. Application Requirements

In addition to general permit requirements, applications for fill shall include, but not be limited to, the following information:

1. Physical, chemical, and biological character of fill materials;
2. Source of fill material;
3. Method of placement and compaction;
4. Type of proposed surfacing and stormwater control devices;
5. Method of perimeter erosion control;
6. Proposed use of fill area;
7. Location of fill relative to natural and/or existing drainage patterns.

C. Development Standards

1. Fill materials shall be sand, gravel, soil, rock or similar material. Use of polluted dredge spoils or other solid or dangerous wastes as defined by the Thurston County Public Health and Social Services Department is prohibited.
2. Fill within shoreline jurisdiction shall be avoided to the extent feasible. Where necessary, fill in shoreline jurisdiction shall be located, designed, and constructed to protect shoreline ecological functions and ecosystem-wide processes, including channel migration.
3. Erosion control measures shall be implemented pursuant to Title 15 TCC (Stormwater Standards).
4. Fill shall be designed and reviewed for avoidance of water-quality impacts in accordance with local, state and federal regulations.
5. Fill shall only be allowed below the OHWM for:
 - a. Water-dependent uses, such as marinas,
 - b. Public access, such as creation of a swim beach,
 - c. Cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan,
 - d. Mitigation action,
 - e. Environmental restoration,
 - f. Beach nourishment or enhancement projects,
 - g. The expansion or alteration of existing transportation facilities of statewide importance located along the shoreline, and only upon demonstration that alternatives to fill are not feasible.
6. Fill shall not be used to create land to serve residential development.
7. Fill shall not be used to create land to serve non-water dependent commercial development.
8. If archaeological resources are uncovered during excavation, developers and property owners must immediately stop work and notify Thurston County, the Department of Archaeology and Historic Preservation, and affected Indian tribes. Permits may be conditioned after review by a professional archaeologist.

19.600.145 Forest Practices/Timber Harvest

A. Environment Designations Permit Requirements

A forest practice that only involves timber cutting is not a development under the Shoreline Management Act and does not require a shoreline Substantial Development Permit or a shoreline exemption. Forest practices conducted under a Forest Practices Permit (Class I, II, III and IV-Special) from the Washington Department of Natural Resources shall not be regulated by this Program and shall not require a local shoreline permit. However, forest practice conversions and other Class IV-General forest practices where there is a likelihood of conversion to non-forest uses, and timber harvest within Shorelines of Statewide Significance shall be regulated by this Program. Where such forest practices are proposed in the following designations, the identified permit requirements shall apply.

1. Natural: CUP
2. Rural Conservancy: SDP
3. Urban Conservancy, Shoreline Residential:
 - a. Prohibited for Commercial Forestry;
 - b. SDP for Class IV-General permit.
4. All designations: CUP for exceptions to Shorelines of Statewide Significance standards in section 19.600.145(C)(4) below.

B. Application Requirements

In addition to the general permit requirements of this Program, a Thurston County Timber Harvest Permit (Class IV General, Class III Conversion Option Harvest Plan, and timber harvest within Shorelines of Statewide Significance) shall be required. This includes all other application requirements as outlined in Chapter 17.25 TCC (Forest Lands Conversion).

C. Development Standards

1. Forest practices within shoreline jurisdiction shall comply with the requirements of the Forest Practices Act (Ch. 76.09 RCW) and the Forest and Fish Report (United States Fish and Wildlife Service et al. 1999). The following standards shall apply to those activities subject to this Program, including forest practices conducted under a Class IV-General forest practice permit or Class III-Forest Practices conversion option harvest plan, and timber harvest activities conducted within Shorelines of Statewide Significance.
2. Timber Harvest Permit activity shall assure no net loss of shoreline ecological functions and shall maintain ecological quality of the watershed's hydrologic system.
3. Timber Harvest Permit activity in all shoreline areas shall comply with the policies and regulations outlined in this Program, Chapter 17.25 TCC (Forest Lands Conversion) and Title 15.05 TCC (Storm Water Standards) for silt and erosion control.
4. With respect to timber situated within the shoreline jurisdiction for shorelines of statewide significance, only selective commercial timber cutting shall be allowed provided that no more than thirty percent of the merchantable trees may be harvested in any ten year period of time, further provided that:
 - a. Other timber harvesting methods may be permitted in those limited instances where the topography, soil conditions or silviculture practices necessary for regeneration render selective logging ecologically detrimental; and
 - b. Clear cutting may occur when timber harvest is solely incidental to the preparation of land for other uses authorized by this chapter as described in paragraph 7 below.
5. Exceptions to the standards provided in RCW 90.58.150 as stated in Section 19.600.145(C)(4) shall require a CUP.
6. Failure to apply for a local Class IV Forest Practices Permit, when required, will result in a six-year moratorium on any subsequent development proposals on the subject parcel.

7. When timberland is to be converted to another use, such conversion shall be clearly indicated on the Forest Practices application. Shoreline buffers shall be established and maintained for all Type IV Forest Practices Permits in accordance with the proposed shoreline use. Failure to establish shoreline buffers or declare intent to convert on the application shall provide grounds for the denial of subsequent development proposals for a period of six years from the date of the Forest Practices application approval (RCW 76.09.060(3)(d)).
8. Timber harvest activities subject to this Program shall not be permitted until local plat approval or other applicable land use authorization has been given, and any required shoreline permits have been issued for the land division(s) or intended use(s) where applicable.

19.600.150 Industrial Development

A. Environment Designations Permit Requirements

Where industrial development is proposed in the following designations, the identified permit requirements shall apply.

Note: The Planning Commission is interested in public testimony regarding in which designations industrial development should be allowed. Options under consideration include prohibiting these uses in either or both the Shoreline Residential and Urban Conservancy SEDs (the draft currently allows them), and allowing these uses in the Rural Conservancy SED (the draft currently prohibits them). Industrial development will be subject to development standards in the draft in any designations where it is an allowed use.

1. Natural and Rural Conservancy: Prohibited
2. Urban Conservancy and Shoreline Residential: CUP for water-oriented industries. Non-water-oriented industrial development shall be prohibited.
3. Aquatic: Prohibited, unless water-dependent or allowed in the adjoining upland designation, then a CUP.

B. Development Standards

1. When allowed, industrial development shall be located, designed and constructed in a manner that assures no net loss of shoreline ecological functions, resources and values.
2. Water-dependent, water-related, and non-water oriented industrial uses are permitted where allowed by zoning and this Program. The following preferential order shall be considered by the County when evaluating SMP amendments and determining compliance of shoreline permits:
 - a. The industrial use is water-dependent, consistent with the Act and this Program. The County may require an applicant to provide documentation about the characteristics of the development to confirm the proposal's water-dependent nature.

- b. The industrial use is water-related, consistent with the Act and this Program. The County may require an applicant to provide documentation about the characteristics of the development to confirm the proposal's water-related nature.
 - c. The industrial use is non-water-oriented and consistent with the exceptions and conditions in Section 19.600.150(B)(3).
 3. New non-water-oriented industrial development shall be prohibited in shoreline jurisdiction except when:
 - a. The area is designated for industrial use by the Thurston County Comprehensive Plan and the site is physically separated from the shoreline by another property or public right of way; or
 - b. The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Act's objectives such as providing ecological restoration and public access. Any such public access shall be improved prior to occupancy; or,
 - c. Navigability is severely limited at the proposed site; and the industrial use provides a significant public benefit with respect to the Act's objectives, such as providing public access and ecological restoration.
 4. Industrial development must consider incorporating public access as mitigation for impacts to shoreline resources and values unless public access cannot be provided in a manner that does not result in significant interference with operations or hazards to life or property.
 5. Where industrial use is proposed for location on land in public ownership, public access shall be required.
 6. Industrial development and redevelopment shall locate, when feasible, where environmental cleanup and restoration of the shoreline area can be incorporated.
 7. Where industrial uses are allowed, Chapter 20.28 TCC (Section 20.28.020 Permitted Uses) shall apply to new or expanded industrial development.
 8. Buffers shall not be used for storage of industrial equipment or materials, nor for waste disposal, but may be used for outdoor recreation if consistent with public access and other provisions of this Program.
 9. Applications for water-oriented facilities for processing, manufacturing, and storage of natural resource products, including log storage, shall include provisions which address:
 - a. Navigation,
 - b. No net loss of shoreline ecological functions,
 - c. Impacts to public access,
 - d. Aesthetics.
 10. Boat yards and similar ship-building facilities shall comply with the mandatory best management practices and other provisions of the Boatyard General Permit issued through Ecology, as now or hereafter amended.

19.600.155 Mining

A. Environment Designations Permit Requirements

Where mining is proposed in the following designations, the identified permit requirements shall apply.

1. Natural: Prohibited
2. Rural Conservancy: CUP
3. Urban Conservancy and Shoreline Residential: Prohibited
4. Aquatic: Prohibited

B. Development Standards

1. Mining and associated activities shall only be allowed when all of the following criteria have been met:
 - a. The location, design and conduct is consistent with the Environment Designation and with the Thurston County mineral resource overlay,
 - b. Demonstrated consistency with critical areas regulations;
 - c. The activity is dependent on a shoreline location;
 - d. The activity demonstrates no net loss of shoreline ecological functions through avoidance, minimization and mitigation of adverse impacts during the course of mining and reclamation.
2. All of the provisions and requirements for mining in Chapter 78.44 RCW (Surface Mining), as now or hereafter amended, shall be met.
3. Any proposed subsequent use of mined property shall be consistent with the provisions of the environment designation in which the property is located.
4. Reclamation of disturbed shoreline areas shall be required to provide appropriate ecological functions consistent with the pre-existing and current surrounding conditions.
5. Mining proposals shall give consideration to activities that result in the creation, restoration, or enhancement of habitat for priority species.
6. Mining shall be prohibited waterward of the OHWM and prohibited within a Channel Migration Zone.
7. The deposit of overburden within shorelines constitutes fill and shall be subject to the provisions of this Program.

19.600.160 Mooring Structures and Activities

A. Environment Designations Permit Requirements

When mooring structures are proposed in the Aquatic designation and are adjacent to the following upland designations, the identified permit requirements shall apply.

1. Natural:
 - a. Single use and joint/public use docks (marine water): Prohibited
 - b. Floats and buoys (marine water): Prohibited
 - c. Single use and joint/public use docks (lakes): Administrative SDP
 - d. Floats and buoys (lakes): Exempt
 - e. Boat launch ramps, boat launch rails, and boat lifts (marine water and lakes): Prohibited

Option for Public Hearing: Consider allowing docks in the Natural environment of lakes and marine shorelines.



2. Rural Conservancy, Urban Conservancy, Shoreline Residential:
 - a. Single use and joint/public use docks (marine water): SDP
 - b. Single use and joint/public use docks (lakes): Administrative SDP
 - c. Floats (marine water): SDP
 - d. Floats (lakes): Exempt
 - e. Boat launch ramps and rails (marine water and lakes): SDP
 - f. Boat lifts (marine water): SDP
 - g. Boat lifts (lakes): Administrative SDP
 - h. Buoys (marine): SDP
 - i. Buoys (lakes): Exempt

B. Application Requirements

In addition to the general permit requirements, proposals for mooring structures shall include the following:

1. A staff consultation meeting with the Department, state and federal agencies (where applicable), and tribes affected by proposals within their usual and accustomed grounds and stations shall be required prior to application for new piers and docks, pursuant to Chapter 19.500 (Permit Provisions, Review and Enforcement);
2. Description of the proposed structure, including size, location, design, and any other modification required by the project;
3. Ownership of tidelands, shorelands, and/or bedlands;
4. Proposed location of mooring structures relative to property lines and OHWM;
5. Location, width, height, and length of mooring structures on adjacent properties;
6. If for residential moorage, demonstration that existing facilities, including public moorage on the same lake, are not adequate or feasible to accommodate the proposed moorage;
7. If for residential moorage, demonstration that existing facilities, including public moorage within ten driving miles of the applicant's parcel on the marine shoreline, are not adequate or feasible to accommodate the proposed moorage;

8. Demonstration that alternative types of moorage, including buoys, are not adequate or feasible; and

Option for Public Hearing: Strike requirement to consider alternative moorage prior to allowing piers and docks.



9. When maps or observation indicate the potential presence of critical saltwater or freshwater habitat on the parcel, habitat surveys as described in Section 19.700.145 shall be required for mooring structures, with the exception of buoys, and shall be conducted according to WDFW, Washington Department of Natural Resources, and the U.S. Army Corps of Engineers parameters, where applicable.

C. Development Standards

1. General Development Standards

- a. New mooring structures shall be allowed only for water-dependent uses or public access. As used here, a dock associated with a single-family residence is a water-dependent use and may be permitted, provided that it is designed and intended as a facility for access to watercraft and otherwise complies with the provisions of the Act and this Program.
- b. New overwater structures are only allowed in support of a water-dependent use. New water-related and water-enjoyment uses may be permitted on overwater structures if they are auxiliary to the primary water-dependent use, provided the minimum size requirement needed to meet the water-dependent use is not violated.
- c. Mooring structures shall follow all applicable state and federal requirements for building standards, materials, installation timing, and surveys.
- d. Mooring structures shall only be allowed in critical saltwater and freshwater habitats when the standards provided in this section for such habitats are met.
- e. Overwater structures shall be constructed to the minimum size necessary to meet the needs of the proposed water-dependent use, including docks associated with single-family residences, provided the additional development standards of this chapter are met. When evaluating whether a proposal is the minimum size necessary to meet the needs of the proposed water-dependent use, the approval authority may consider the length of dock required to reach an appropriate mooring depth or the length or configuration needed to prevent conflict with a neighboring dock.
- f. Buoys shall be preferred over piers, docks or floats in the marine environment. Applicants shall demonstrate that a buoy is not a feasible option prior to proposing a less preferred option.

Option for Public Hearing: Strike requirement to consider alternative moorage prior to allowing piers and docks.

- g. Within the marine environment, single-use mooring structures, with the exception of buoys, shall be prohibited except where it can be demonstrated that a joint use facility is not feasible.

- h. Proposed moorage structures for new residential development of two or more dwellings shall be limited to a single, joint-use community facility except where demonstrated to be infeasible, with no more than one moorage space per dwelling unit or lot.
- i. Except when accessory to single family residences, any new pier or dock construction may only be permitted if the applicant has demonstrated that a specific need exists to support the intended water-dependent use. This may include justification through port or county comprehensive plans.
- j. Mooring structures shall be readily discernible under normal daylight conditions to the unaided eye at a minimum distance of one hundred yards and must be marked for night-time visibility.
- k. No creosote, chromate copper arsenate, or pentachlorophenol treated wood, or other comparably toxic compounds shall be used as part of the decking, pilings, or other components of any in-water structures such as docks, piers, and floats. These types of treated wood shall only be used for above-water structural framing.
- l. During maintenance, existing deteriorated treated wood shall be replaced with alternative materials such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents metals, hydrocarbons and other toxins from leaching out. If maintenance activities exceed 50% repair or replacement of the existing structure, then the application requirements in Section 19.600.160(B) above shall apply.
- m. Tires are prohibited as part of above and below water structures or where tires could potentially come in contact with the water.
- n. During maintenance or repair which exceeds 50% of a pier, dock or ramp, existing tire materials shall be replaced with inert or encapsulated materials such as plastic or encased foam. Likewise, any un-encapsulated foam material must be removed or replaced.
- o. To prevent scouring of the substrate, power-assisted pressure washing or cleaning of equipment or machinery in water less than seven feet deep shall be prohibited. In addition, equipment that contains or is covered with petroleum based products shall not be pressure washed in or over the water.
- p. New covered moorage, over-water boat houses, side walls or barrier curtains associated with single family residential moorage are prohibited in the Natural environment. When covered moorage and covered watercraft lifts are replaced, the replacement structures should use transparent roofing materials that are rated by the manufacturer as having 90% or better light transmittance.

Option for Public Hearing: Consider whether covered moorage should be permitted for commercial and industrial uses. This would need to be included in the cumulative impacts analysis.

- q. New structures shall be designed and located so no new bulkheading or armoring of the shoreline is necessary.
- r. In marine waters and salmon-bearing lakes, functional grating resulting in a total open area of a minimum of 24% must be installed on piers and floats which are new or greater than 50% replacement. This can be achieved by installing grating with 60% open area on at least 40% of the pier or by grating a larger percentage of the pier with grating with openings of less than 60%. Exceptions to these standards may be permitted where need is demonstrated and when approved by the U.S. Army Corps of Engineers.

Option for Public Hearing: Strike requirement for grating on lakes that do not contain salmon.



- s. When required, grating must not be covered, on the surface or underneath, with any stored items and must be kept clean of algae, mud or other debris that may impede light transmission.
- t. All mooring facilities shall be designed and constructed to avoid, or where avoidance is not feasible, to minimize and mitigate impacts to achieve no net loss of ecological functions, including functions associated with critical freshwater and saltwater habitats and species, such as eelgrass beds, and fish habitats and processes such as currents and littoral drift.
- u. Proposed moorage facilities should be evaluated to ensure that the project does not conflict with existing water dependent uses.

2. Critical Saltwater Habitats Standards

- a. Except for private, non-commercial mooring facilities for individual or community use, all mooring structures may only be permitted if the applicant can clearly demonstrate the public's need for the structure, the structure is consistent with the public trust protections in RCW 90.58.020, and the structure is consistent with the State's interest in resource protection and species recovery.
- b. Where existing covered moorage, covered watercraft lifts, and boathouses associated with single-family residences occur within critical saltwater habitats, the structure shall be removed by the end of the life of the structure, or relocated to avoid critical saltwater habitats at the time of greater than 50% replacement, except where demonstrated to be infeasible.
- c. New or expanded mooring structures shall be located the greater of or most protective of:
 - i. A horizontal distance of twenty-five feet from the outside edge of the structure to native aquatic vegetation attached to or rooted in substrate;
 - ii. A horizontal distance equal to the maximum distance shade will be cast by the structure and vessel;
 - iii. A four foot vertical distance from eelgrass or relevant submerged aquatic vegetation;
 - iv. A distance the diameter of the turning circle, if the structure is to be utilized for motorized vessels. The turning circle is defined as 3.5 times the length of the longest vessel to use the structure.
 - v. Alternative measures that demonstrate no net loss of ecological functions.
- d. In areas that have not been documented as spawning sites, but contain characteristics that would support forage fish spawning, a habitat survey shall be conducted over a two-year period throughout the assumed local spawning season. If the proponent is unwilling to bear the time and expense of such a survey, the project must be designed and operated under the presumption that forage fish spawning does occur at the site, pursuant to WDFW standards.
- e. For sites adjacent to sand lance and surf smelt spawning areas, all in-water work that has the potential to increase suspended sediments in the spawning area during the spawning period shall require at least two feet vertical separation from the tidal elevation of the spawning bed, or a setback of 180 feet horizontal distance from the lower edge of the spawning habitat zone. In-water work should occur during an outgoing tide when the

water line is below the lower edge of a surf smelt/sand lance spawning habitat zone (five to six feet MLLW).

3 Pilings

- a. New or replacement pilings may be made of steel, concrete, plastic, untreated wood or treated wood where approved for the marine or freshwater environment, except creosote and similar products.
- b. New pilings must be spaced 20 feet apart lengthwise. If the structure is less than 20 feet in length, pilings may be allowed at the ends of the structure only. In areas with forage fish spawning or rearing and submerged aquatic vegetation, when allowed, pilings must be spaced 40 feet apart lengthwise.

Option for Public Hearing: Consider a shorter distance for spacing of residential pilings in lakes, such as 8 feet.

- c. A maximum of two moorage pilings beyond or parallel to a mooring structure may be allowed to accommodate moorage of boats exceeding the length of the mooring structure or to provide supplementary tie-down locations for boats that require additional stabilization.
- d. New or replacement pilings shall be driven only during construction windows approved by WDFW. These include protection for spawning periods and periods of presence of juvenile salmonids, forage fish and groundfish.

4. Piers

- a. Single-use piers may not exceed 4 feet in width (6 feet if wheelchair access is needed), and joint-use piers may not exceed 6 feet in width, unless otherwise approved by the U.S. Army Corps of Engineers, if applicable to the proposal. See Figures 19.600.160.1 and 19.600.160.2 for illustration of single-use and joint-use moorage requirements.

Option for Public Hearing: Consider 6 feet pier width as standard allowance, with up to 8 feet if applicant can demonstrate need.

- b. In no case shall piers and their associated ramps and floats extend greater than 15% of the perpendicular shore-to-shore distance across a waterbody, except where a navigational study has been submitted for County review and approval. The navigational study shall analyze impacts to local recreational use, and recommend mitigation measures to minimize such impacts.
- c. New or replacement piers must be oriented in a straight line.
- d. The construction of new covered structures on piers is prohibited. This does not include electrical utility boxes, or if such structure is an element of an approved marina, port or park plan.

- e. The width of the ramp connecting the pier to shore or to a float must not exceed four feet in width (six feet if wheelchair access is needed). New and replacement ramps or gangways shall be fully grated with 60% open area in marine waters and salmon-bearing lakes. Exceptions to these standards may be permitted where need is demonstrated and where approved by the U.S. Army Corps of Engineers.

Option for Public Hearing: Strike requirement for grating on lakes that do not contain salmon.

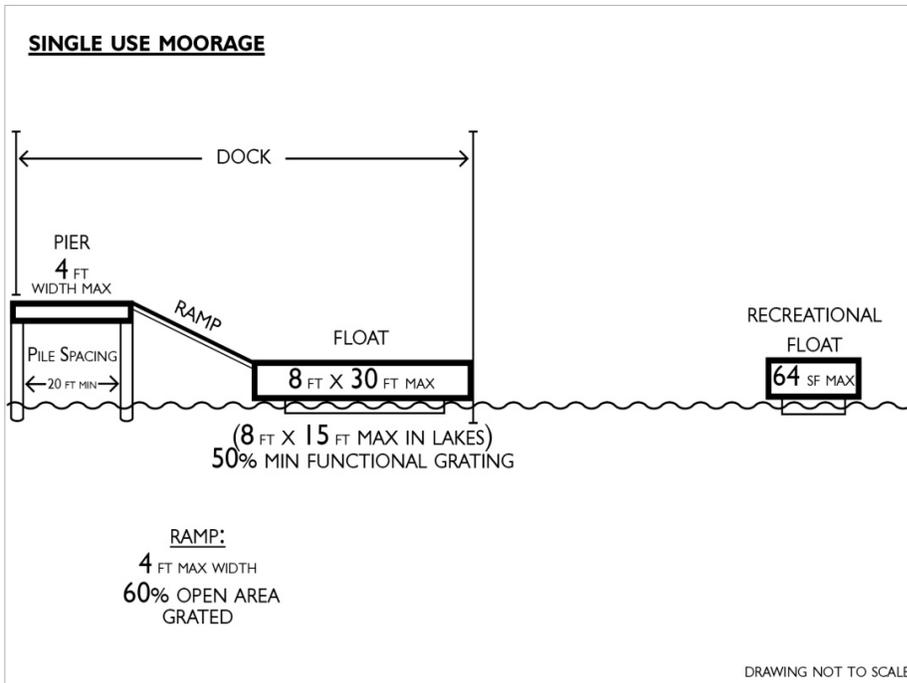


Figure 19.600.160(1). Mooring structure and recreational float dimensional requirements for single-use facilities.

- g. Single-use recreational floats shall not exceed 64 square feet in size and joint-use recreational floats shall not exceed 200 square feet in size. In either case, the float must have at least 50% functional grating in marine waters and salmon-bearing lakes. See Figures 19.600.160(1) and 19.600.160(2) for illustration of single-use and joint-use moorage requirements.
- h. Community recreational floats associated with public parks and other recreational facilities shall be a maximum of 300 square feet in size and must have at least 50% functional grating in marine waters and salmon-bearing lakes.
- i. The 50% functional grating area requirements in standards e. through h. above may be reduced if safe design of the float necessitates placement of flotation materials underneath more than 50% of the total deck area. In this case, applicants may propose additional design considerations to increase the amount of light transmission below the float.

6. Boat Launching Ramps, Rails and Lifts

- a. Private boat launch rail systems are preferred over private boat launch ramps. Applicants shall demonstrate that the preferred option is infeasible before selecting the less preferred option.
- b. Boat launch rail systems shall be maintained in operating condition or must be removed.
- c. Boat launch rail systems shall be designed, to the greatest extent feasible, so they are not barriers to littoral drift.
- d. Private boat launches shall not extend below ordinary high water, unless they:
 - i. Consist of a ramp or similar structure constructed or placed upon the substrate to prevent direct vehicle or boat trailer contact with the lakebed, streambed, or tideland, and
 - ii. Will result in no net loss of shoreline ecological functions, and
 - iii. Minimize aesthetic impacts to the greatest extent possible.
- e. Commercial or community boat launching ramps shall provide a wash-down drainage crypt which incorporates oil-water separators for the treatment and disposal of wastewater associated with the boat launching ramp.
- f. Floating watercraft lifts shall be located greater than nine feet waterward from the OHWM.
- g. The area of floating boat lifts to be installed on the overwater structure must be included in the float grating calculations in marine waters or salmon-bearing lakes.

7. Buoys and Anchors

- a. One mooring buoy may be permitted per residence, pursuant to the standards in this section.
- b. Mooring buoys may be permitted at public parks, provided they are part of an approved park plan.
- c. Mooring buoys and/or anchors shall not be used for moorage of live-aboard vessels. Other extended moorage or anchoring shall only be allowed in waters of the State when permission is obtained from the State, and impacts to navigation and public access are mitigated.
- d. Mooring buoys shall have a helical anchor with a mid-line float and be located in water at least sixteen feet deep to minimize impacts to the substrate and aquatic vegetation, except where consultation with the appropriate state resource agency results in an alternate design due to site-specific conditions.
- e. Mooring buoys are limited to use for vessels no longer than sixty (60) feet in length.

- f. Mooring buoys are subject to Washington Department of Natural Resources approval for placement in state owned aquatic lands (RCW 79.105.430), and WDFW approval for any mooring buoy placement.
 - g. Recreational mooring buoys shall be registered with Thurston County.
8. Lakes, Rivers and Streams
- a. Mooring structures shall be prohibited on rivers and streams.
 - b. No mooring structures shall be constructed within 100 feet of the mouth of a river, stream or creek.

19.600.165 Recreation and Public Access

This section is applicable to commercial and public recreational development, and public access related to new developments of more than four housing units.

A. Environment Designations Permit Requirements

Where recreational development for the purpose of public access is proposed in the following designations, the identified permit requirements shall apply.

- 1. Natural:
 - a. Prohibited for non-water-oriented recreational development;
 - b. SDP for non-motorized, water-oriented recreational development; and
 - c. CUP for all other forms of recreation, except where demonstrated to be consistent with approved park plans prior to application, and then with a SDP.
- 2. Rural Conservancy, Urban Conservancy, Shoreline Residential: SDP
- 3. Aquatic: The required permit type will be determined by the specific recreational development proposed as set forth in Chapter 19.600 (Shoreline Use and Modification Development Standards). For example, see Section 19.600.125, Boating Facilities.

B. Application Requirements

In addition to the general permit requirements, a description of how the proposed use is water-oriented is required if applicable.

C. Development Standards

- 1. Recreational development shall not result in a net loss of shoreline ecological functions or ecosystem-wide processes.
- 2. All recreational facilities shall be designed, located and operated in a manner consistent with the purpose of the environment designation in which they are located.
- 3. Water-oriented recreation may be allowed in shoreline buffers when they provide visual or physical access to the shoreline. The removal of on-site native vegetation shall be limited to the minimum necessary for the recreational development areas, such as picnic areas, campsites,

- selected views, or other permitted structures or facilities. Impacts created from vegetation removal shall be mitigated.
4. Preference shall be given to activities which are consistent with The Thurston County Comprehensive Plan, approved state and local park plans for water-oriented recreational development.
 5. Non-water-oriented recreational facilities, such as golf courses, playing fields, and facilities with extensive impervious surfaces, shall observe Critical Area Buffers and Vegetation Conservation Standards (Sections 19.400.115 and 19.400.120, respectively).
 6. Commercial recreational development shall be consistent with Section 19.600.130 (Commercial Development).
 7. Recreational vehicular traffic is prohibited on beaches, bars, spits and streambeds, except for permitted construction and boat launching, or in areas where it can be demonstrated that a historical use has been established.
 8. Public road-ends, tax-title lands and right-of-ways adjacent to shorelines of the state shall be preserved for public access, unless the property is zoned for industrial uses. Pursuant to RCW 36.87.130, as now or hereafter amended, vacation of such shall only occur if the purpose is to:
 - a. Enable any public authority to acquire the vacated property for port purposes, boat moorage or launching sites; or
 - b. Provide for park, viewpoint, recreational, educational or other public purpose.
 9. Trail access shall be provided to link upland facilities to the beach area where feasible and where impacts to ecological functions can be mitigated.
 10. When applicable, recreational development shall make adequate provisions for:
 - a. Vehicular parking and pedestrian access;
 - b. Proper wastewater and solid waste disposal methods;
 - c. Security and fire protection;
 - d. The prevention of overflow and trespass onto adjacent properties, including, but not limited to, landscaping, fencing, and posting of property;
 - e. Screening of such development from adjacent private property to prevent noise and light impacts.
 11. Shoreline trails and pathways shall be located, designed, and constructed to protect bank stability.
 12. As required by RCW 90.58.100(4), applications providing for wilderness beaches, ecological study areas, and recreational uses for the public on state-owned shorelines shall be considered a preferred use.
 13. Public access sites shall be made barrier-free and accessible for physically disabled uses where feasible, and in accordance with the Americans with Disabilities Act (ADA).

19.600.170 Residential Development

A. Environment Designations Permit Requirements

Where new residential development is proposed in the following designations, the identified permit requirements shall apply. Standards for alterations and replacement of existing residential structures are located in Chapter 19.400 TCC.

1. Natural:
 - a. Administrative CUP for primary single-family residences.
 - b. CUP for subdivisions.
 - c. Prohibited for multi-family units and accessory dwelling units.
2. Rural Conservancy and Urban Conservancy:
 - a. Administrative SDP for primary single-family residences if exemption criteria not met.
 - b. SDP for multi-family units, accessory dwelling units and subdivisions.
3. Shoreline Residential:
 - a. Administrative SDP for primary single-family residences (if exemption criteria not met), and accessory dwelling units.
 - b. SDP for multi-family units and subdivisions.
4. Aquatic: Prohibited

B. Development Standards

1. All new residential development, including subdivision of land, shall be designed, configured and developed in a manner that ensures no net loss of shoreline ecological function.
2. All sewage disposal and water systems shall be in compliance with state and local health regulations including but not limited to Thurston County Board of Health Articles III and IV for on-site sewage and water supply requirements.
3. New residential development and new subdivisions shall be designed, located and constructed so that structural improvements, including bluff walls, retaining walls and other stabilization structures, are not required to protect such structures and uses.
4. New over-water residences, including floating homes, are prohibited. Where such homes exist as of the adoption date of this Program, they shall be reasonably accommodated to allow improvements associated with life safety matters and property rights (mitigation may be required).
5. Stormwater quality and quantity measures for residential development must comply with current codes.
6. Flood hazard reduction measures for residential development shall comply with Chapter 24.20 TCC, as incorporated here by Section 19.400.115 (Critical Areas) and Section 19.400.150 (Flood

Hazard Reduction Measures) of this Program and shall be designed to prevent net loss of shoreline ecological functions.

7. New multi-unit residential development, including the subdivision of land for five or more parcels, shall provide for joint or community and/or public access, except where demonstrated to be infeasible due to any of the following:
 - a. Incompatible uses;
 - b. Safety;
 - c. Security;
 - d. Impact to the shoreline environment;
 - e. Other legal limitations that may be applicable.

Public access may be limited to the landowners within the new development. The developer may choose to allow broader access at their discretion. Broader public access may also be required if shoreline access has historically been permitted or otherwise provided at the site.

8. For new residential development which requires public access, alternate methods of providing public access shall be considered in cases where on-site access is infeasible. This may include off-site improvements.
9. Lot area shall be calculated using only those lands landward of the OHWM.
10. Single-family residential uses are a priority use only when developed in a manner consistent with control of pollution and prevention of damage to the natural environment.

19.600.175 Shoreline Stabilization

A. Environment Designations Permit Requirements

The following identified permit requirements shall apply for all designations:

Normal protective bulkhead common to single-family residences: Exempt from SDP if exemption criteria in Section 19.500.100(C)(4)(c) are met.

Other shoreline stabilization: SDP

B. Exemptions from Substantial Development Permit for Shoreline Stabilization

1. The construction of a normal protective bulkhead common to single-family residences shall not require an SDP if it meets the exemption criteria listed in Section 19.500.100(C)(4)(c) of this Program, or as further amended in WAC 173-27-040.
2. A “normal protective” bulkhead includes those structural and nonstructural developments installed at or near, and parallel to, the OHWM for the sole purpose of protecting an existing single-family residence, appurtenant residential structures, and the shoreline of eutrophic lakes from loss or damage by erosion.

3. A letter of permit exemption will be prepared for qualifying shoreline stabilization activities in accordance with Section 19.500.100(C)(3). The County shall track exemption activities in the permit system.

C. Application Requirements

In addition to the general application requirements, applications for shore protection and bluff stabilization shall include the following information, when applicable. The approval authority may amend or waive application requirements if they are not applicable to the shoreline type where the stabilization is proposed:

1. Upland, onsite improvements and any existing shoreline structures.
2. Type of proposed shore protection and a description of alternatives to hard approaches where proposed, and a thorough discussion of the environmental impacts of each alternative;
3. Habitat survey prepared by a qualified professional biologist that describes the anticipated effects of the project on fish and wildlife resources and marine vegetation;
4. A description of any proposed vegetation removal, and a plan to re-vegetate the site following construction;
5. Tidal elevations and field verified line of ordinary high water;
6. Ownership of the tidelands, shorelands and/or bedlands;
7. Purpose of shore protection;
8. Direction of net longshore drift (for marine shoreline);
9. Plan and profile of existing bank and beach;
10. Profile of adjacent existing bulkhead;
11. In addition to the general Geotechnical Report requirements in Section 19.700.120, the following information shall be included for shoreline stabilization proposals:
 - a. Address the need to prevent potential damage to a primary structure through the use of shoreline stabilization measures.
 - b. Estimate time frame and rates of erosion to report on the urgency associated with the specific situation. Urgent means:
 - i. That the primary structure will be damaged within three years as a result of natural shoreline erosion in the absence of hard armoring structures, or
 - ii. Where waiting until the need is that immediate would foreclose the opportunity to use measures that avoid impacts on ecological functions.
 - c. If the report determines that the need is not as immediate as three years, it still may be used to justify a more immediate authorization to protect against erosion using soft measures.
 - d. The geotechnical analysis shall evaluate on-site drainage issues and address drainage problems away from the shoreline edge.

12. Any other information that may be required to demonstrate compliance with the review criteria referenced in this section and the guiding provisions at WAC 173-26-231(3)(a).

D. Development Standards

1. General Regulations

- a. These standards shall be guided by the provisions at WAC 173-26-231(3)(a).
- b. Applications for shore protection will be reviewed pursuant to comments made by the Washington Department of Fish and Wildlife pertaining to impacts on critical salt and freshwater habitats, and comments made by the Washington Department of Natural Resources for projects proposed on state owned aquatic lands.
- c. Soft shoreline stabilization measures (i.e. non-structural) shall be utilized unless demonstrated through a geotechnical analysis not to be sufficient to protect primary structures, dwellings and businesses. Alternatives for shoreline stabilization shall be based on the following order of preference:
 - i. No action,
 - ii. Non-structural methods: increase building setbacks, or relocate structures;
 - iii. Soft shoreline stabilization constructed of natural materials including bioengineering, beach nourishment, protective berms, or vegetative stabilization;
 - iv. Hybrid shoreline stabilization, usually constructed of a mix of rock, logs and vegetation;
 - v. Hard shoreline stabilization constructed of materials such as rock, riprap or concrete.
- d. Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be permitted waterward of the OHWM.
- e. When hard shoreline stabilization measures (i.e. structural) are demonstrated to be necessary, they must:
 - i. Limit the size of stabilization measures to the minimum necessary.
 - ii. Assure no net loss of shoreline ecological functions.
 - iii. Ensure that publically financed or subsidized shoreline erosion control measures do not restrict appropriate public access to the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions.
 - iv. Where feasible, incorporate ecological restoration and public access improvements into the project.
- f. Shoreline stabilization measures shall not be for the purpose of creating dry land. Leveling or extending property, creating residential lawns, yards or landscaping shall not be allowed except when otherwise allowed in this section due to health and safety.
- g. Minimize disturbance pertaining to beach access by avoiding switchback trails which require hard stabilization. Where such avoidance is not feasible, mitigation for impacts to shoreline ecological functions shall be required.
- h. Bluff stabilization walls shall be prohibited unless proven necessary through a geotechnical report.
- i. Placement of shoreline stabilization methods shall follow the natural contour of the existing shoreline, be parallel to and at or above the OHWM.
- j. Shoreline stabilization on marine feeder bluffs, when determined necessary pursuant to the standards of this section, may require additional mitigation measures, including those necessary to offset the loss of sediment supply.

- k. Shoreline stabilization must be designed by a professional engineer licensed in the State of Washington with demonstrated experience in hydraulic activities of shorelines. Alternatively, soft shoreline stabilization may be designed by a habitat biologist or a professional with demonstrated expertise in designing soft shoreline stabilization structures.
 - l. Depending on the degree of hard or soft elements to the project, the Department, Ecology, WDFW, and/or U.S. Army Corps of Engineers may require varying degrees of mitigation or other permit conditions.
 - m. Shoreline stabilization structures shall not result in a net loss of shoreline ecological functions.
 - n. Shoreline stabilization, as applied in this section, is generally distinguished from shoreline restoration activities. However, specific shoreline stabilization elements of restoration activities shall be guided by this section.
2. New and Expanded Shoreline Stabilization
- a. If shoreline stabilization is necessary pursuant to a geotechnical analysis, the method, either hard or soft, shall not result in a net loss of shoreline ecological functions. To meet this requirement, on- and off-site mitigation measures may be required.
 - b. Shoreline stabilization structures shall not be constructed with waste materials such as demolition debris, derelict vessels, tires, concrete or any other materials which might have adverse toxic or visual impacts on shoreline areas.
 - c. New structural stabilization measures shall not be allowed except when necessity is demonstrated in the following manner:
 - i. To protect legally existing primary structures:
 - 1. New or enlarged structural shoreline stabilization measures for the existing primary structure, including residences, shall not be allowed unless there is conclusive evidence, documented by a geotechnical analysis, that the lawfully established, primary structure is in imminent danger from shoreline erosion caused by tidal actions, currents, or waves;
 - 2. Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need;
 - ii. In support of water-dependent development when all of the following apply:
 - 1. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage;
 - 2. Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient;
 - 3. The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report;
 - iii. In support of new non-water-dependent development, including single-family residences, when all of the following apply:
 - 1. The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage;
 - 2. Nonstructural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient;
 - 3. The need to protect the primary structures from damage due to erosion is demonstrated through a geotechnical report. The damage must be caused by natural processes, such as tidal action, currents and waves;

- iv. To protect projects for the restoration of ecological functions or hazardous substance remediation projects pursuant to chapter 70.105D RCW when nonstructural measures, planting vegetation, or installing on-site drainage improvements are not feasible or sufficient.
 - v. To protect water quality by limiting the introduction of sediment into eutrophic lakes.
3. Replacement and Repair of Existing Shoreline Stabilization and Armoring. For the purposes of this section, "replacement" means the construction of a new structure to perform a shoreline stabilization function of an existing structure which can no longer adequately serve its purpose.
- a. Additions to or increases in the size of existing shoreline stabilization measures shall be considered new structures.
 - b. An existing stabilization structure may be replaced with a similar structure if there is a demonstrated need to protect principle uses or structures from erosion caused by currents, tidal action or waves.
 - c. If the OHWM has been re-established, the replacement structure must be located at or near the new OHWM. In general, replacement of the shoreline stabilization structure within one year of damage will ensure recognition of the previous OHWM.
 - d. Alternative or soft stabilization approaches shall be considered prior to in-kind replacement.
 - e. The replacement structure shall:
 - i. Be designed, located, sized and constructed to assure no net loss of ecological functions.
 - ii. Perform the same stabilization function of the existing structure and does not require additions to or increases in size.
 - iii. Not encroach waterward of the OHWM or existing structure unless the residence was occupied prior to January 1, 1992, and there are over-riding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.
 - f. When possible or as an element of mitigation sequencing, failing, harmful, unnecessary, or ineffective structures should be removed, and shoreline ecological functions and processes should be restored using non-structural or soft and/or long term stabilization measures.
4. Shore Stabilization on Streams.
- a. Hard shoreline stabilization methods are prohibited in jurisdictional shoreline streams on estuarine shores, in wetlands, and in salmon spawning areas, except for the purpose of fish or wildlife habitat enhancement or restoration, or when deemed necessary through a geotechnical report to protect an existing primary structure.
 - b. All revetments or similar structures shall be designed in accordance with WDFW Integrated Streambank Protection Guidelines.
5. Use of shoreline armoring to protect a platted lot where no primary use or structure presently exists shall be prohibited.

19.600.180 Transportation

A. Environment Designations Permit Requirements

Where transportation is proposed in the following designations, the identified permit requirements shall apply. Note: new trail construction shall be regulated under applicable Recreation and Public Access (Section 19.600.165) provisions.

1. Natural: Prohibited, except to serve essential transportation corridors or in support of permitted uses and activities, and then with a CUP.
2. Rural Conservancy, and Urban Conservancy: CUP
3. Shoreline Residential: SDP

B. Development Standards

1. New transportation facilities and maintenance of existing transportation facilities shall be carried out in a manner that will: a) avoid a net loss of shoreline ecological functions, and b) result in a net improvement in ecological functions where feasible and appropriate. Unavoidable adverse impacts shall be mitigated.
2. Parking facilities as a primary use are prohibited. Parking facilities shall only be allowed in shoreline jurisdiction when:
 - a. Necessary to support an authorized use, and
 - b. No net loss of ecological functions can be demonstrated, and
 - c. Visual impacts are minimized, and
 - d. Located on the landward side of the area authorized for development.
3. New or expanded transportation routes in the shoreline jurisdiction, including associated wetlands, shall to the greatest extent feasible:
 - a. Be located in areas that do not require shoreline stabilization, dredging, extensive cut/fill and other forms of shoreline alteration;
 - b. Be limited to local access and public shoreline access routes;
 - c. Be located in existing rights of way and corridors; and/or
 - d. Not be built within shoreline jurisdiction when reasonable or practicable alternative exist.
4. Provision shall be made for sufficient view points, rest areas, and picnic areas in public shorelines, where feasible. In addition, bike paths and walking paths shall be incorporated into road designs.
5. All proposed road, bridge or railroad crossings, shall be designed to cross at the shortest, most direct route, except where such design would result in a net loss of shoreline ecological functions or is prohibited by topography. Pursuant to RCW 90.58.320, bridge structures are considered to serve the public interest and are exempt from the statutory structural height limit of thirty-five (35) feet above grade. Bridges may be constructed to a height demonstrated necessary to protect ecological function and accommodate flood passage, engineering standards and safety requirements.
6. Bridge approach fill shall not encroach in the floodway of any stream or river.

7. All public bridges shall include sidewalks for pedestrian use if sidewalks exist on or are planned for connecting roadways.
8. All bridges and culverts shall be large enough to pass the 100-year flood waters with consideration for debris flow likely to be encountered, or designed to the standards of the WDFW **Aquatic Habitat Guidelines.**
9. All bridges intended for use by motorized vehicles shall be designed for emergency vehicle weight loads.
10. Roads and bridges located in wetland areas shall be designed and maintained to prevent erosion and to permit the natural movement of groundwater to the greatest extent feasible.
11. Transit Facilities: To the extent feasible transit facilities such as bus stops and shelters shall be located and designed consistent with Subsection 3 above. Park and ride facilities shall meet the standards of Subsection B above. All other performance standards of Section 19.600.180(B) shall apply.

19.600.185 Utilities

A. Environment Designations Permit Requirements

Where utilities are proposed in the following designations, the identified permit requirements shall apply. Utilities associated with a single-family residence are considered an appurtenance and regulated under the residential development section. Utilities associated with other permitted uses are regulated as part of that use.

1. Natural: Prohibited, except to serve essential utility corridors, and then with a CUP.
2. Rural Conservancy, Urban Conservancy, Shoreline Residential: SDP.
3. Aquatic: CUP

B. Application Requirements

All applications for utility facilities shall include, at a minimum, the following:

1. Reason why facility must be located in the shoreline jurisdiction;
2. Alternative locations considered and reasons for their rejection;
3. Location of other facilities near the proposed project and if the location is to include other types of facilities;
4. Proposed method of construction and plans to control erosion and turbidity during construction;
5. Plans for restoration of areas disturbed during construction;
6. Possibility of locating proposed facility within existing utility right-of-way; and
7. Geotechnical Report when proposed in a geologically hazardous area.

C. Development Standards

1. General Regulations

- a. On-site utility features serving a primary use, such as a water, sewer or gas line to a residence, are accessory utilities and shall be considered a part of the primary use.
- b. All utility facilities shall be designed and located to assure no net loss of shoreline ecological functions, preserve the natural landscape, and minimize conflicts with present and planned land and shoreline uses while meeting the needs of future populations in areas planned to accommodate growth per the Thurston County Comprehensive Plan.
- c. Non-water-oriented utility production and processing facilities, such as power plants and sewage treatment plants, or parts of those facilities, shall not be allowed in shoreline jurisdiction unless it can be demonstrated that no other feasible option is available.
- d. Transmission facilities shall be located outside of the shoreline area where feasible. When located in the shoreline area, they must be constructed, designed and located to assure no net loss of shoreline ecological functions.
- e. Utilities shall be located in existing rights-of-way and corridors whenever possible.
- f. New or expanded utility facilities shall be located in areas that do not require shoreline stabilization, dredging, extensive cut/fill and other forms of shoreline alteration to the greatest extent feasible.
- g. Maintenance of existing utilities shall be carried out in manner that will not result in a net loss of shoreline ecological functions, and any unavoidable adverse impacts shall be mitigated. This includes minimization of vegetation removal, and mitigation of any adversely affected area.
- h. Where feasible and consistent with shoreline ecological functions, new and replacement utility lines shall be underground.
- i. Development of pipelines and cables on tidelands and development of facilities that may require periodic maintenance that disrupts shoreline ecological functions should be prohibited unless no other feasible alternative exists. When allowed, the location, design and construction of such facilities shall not result in a net loss of shoreline ecological functions or significant impacts to the other shoreline resources and values.

2. Sewage Treatment Plants and Outfalls.

- a. Where allowed, sewage treatment plant outfalls shall be below the extreme low water mark and are permitted only where adequate natural water circulation can be provided.
- b. Sewage facilities shall be located within existing rights-of-way when feasible.
- c. To the maximum extent possible, sewage treatment plant outfalls shall be located where their effluent will not negatively impact commercial and recreational shellfish and other critical habitat and marine resource areas. Mitigation may be required for any adverse impacts to fisheries and wildlife resources, natural systems and sensitive areas.
- d. Discharge of untreated effluent over or into the shorelines of the county is prohibited.

Chapter 19.700 Special Reports

19.700.100 Special Reports-General

- A. Special reports shall be submitted by the applicant and approved by the Department for regulated uses when required by this Program for the protection of shorelines or critical areas in shoreline jurisdiction per Chapter 24.35 TCC.
- B. The applicant shall pay for or reimburse the county for the costs incurred in the preparation of special reports or tests, and for the costs incurred by the county to engage technical consultants or staff for review and interpretation of data and findings submitted by or on behalf of the applicant. The applicant shall pay permit fees or technical assistance fees as required by the Community Development Fee Schedule, as now or hereafter amended.
- C. Any special report shall be prepared by a professional, as defined in Chapter 19.150 (Definitions), and shall include his or her resume, or other list of qualifications, to aid the Department in assessing these qualifications.
- D. The special reports described in Sections 19.700.105 through 19.700.145 may be required to provide environmental information and to present proposed strategies for maintaining, protecting and/or mitigating shoreline functions and conditions.

19.700.105 Wetland Delineation Report

A. Minimum Wetland Delineation Report Contents

- 1. Vicinity map;
- 2. When available, a copy of a National Wetland Inventory Map (U.S. Fish and Wildlife Service) and/or a Thurston County Wetland Inventory Map identifying the wetlands on or within 250feet of the site;
- 3. A site map setting forth all of the following:
 - a. Surveyed wetland boundaries based upon a delineation by a wetlands specialist;
 - b. Site boundary property lines and roads;
 - c. Internal property lines, right-of-way, easements, etc.;
 - d. Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, waterbodies, etc.;
 - e. Contours at the smallest readily available intervals, preferably at two-foot intervals;
 - f. Hydrologic mapping showing patterns of surface water movement and known subsurface water movement into, through, and out of the site area.
 - g. Location of all test holes and vegetation sample sites, numbered to correspond with flagging in the field and field data sheets.
 - h. The Department may require an air photo with overlays displaying the site boundaries and wetland delineation.
- 4. Location information (legal description, parcel number and address);

5. Discussion of wetland boundary. If the wetland extends outside the site, the delineation report shall discuss all wetland areas within 250 feet of the site, but need only delineate those wetland boundaries within the site;
6. General site conditions including topography, acreage, and surface areas of all wetlands identified in the Thurston County Wetland Inventory Map and water bodies within one quarter mile of the subject wetland(s);
7. Hydrological analysis, including topography, of existing surface and known significant sub-surface flows into and out of the subject wetland(s);
8. Analysis of functional values of existing wetlands, including vegetative, fauna, and hydrologic conditions;
9. A summary of proposed activity and potential impacts to the wetland(s);
10. Recommended wetland category using the Washington State Wetlands Rating System Categories, including rationale for the recommendation;
11. Recommended buffer boundaries, including rationale for boundary locations;
12. Site plan of proposed activity, including location of all parcels, tracts, easements, roads, structures, and other modifications to the existing site. The location of all wetlands and buffers shall be identified on the site plan.

B. Administrative Wetland Boundary and Rating Evaluation

1. The Thurston County Department of Community Development may delineate and evaluate wetland areas for any proposed single-family dwelling project listed in Chapter 24.30 TCC (Wetlands) as incorporated herein by Section 19.400.115 (Critical Areas), unless the applicant wishes to employ a qualified wetland biologist at the applicant's expense, or if such a report is required by the Department. Fees may be collected for this determination and evaluation, as specified in Community Development Fee Schedule.
2. The approved federal wetland delineation manual and applicable regional supplements shall be the methodology for delineation of the regulated wetland boundary.
3. The wetland boundary shall be field-staked and this line shall be depicted on the building site plan application.
4. The regulated wetland boundary and regulated wetland buffer shall be identified on all grading, building, site, utility or other development plans submitted on the project.

19.700.110 Wetland Mitigation Plan/Report

- A. As required by TCC 24.30.070 (Wetland Mitigation), a mitigation plan shall be prepared. A detailed mitigation plan shall contain the following:
 1. Executive summary which summarizes the project, its potential wetland related impacts, and the proposed mitigation to include the following information:
 - a. Applicant Name/Address/Phone

- b. Agent/Consultant
- c. Description of land use proposal
- d. Description of mitigation area
- e. Description of impact avoidance and minimization measures
- f. Description of unavoidable wetland impacts and mitigation measures:
 - i. Size (acres)
 - ii. Wetland classification
 - iii. Hydrogeomorphic (HGM) classification
 - iv. Wetland rating
 - v. Functions
 - vi. Compensation ratios used
- g. Explanation of other impacts to waters of the state
- h. Goals, objectives and monitoring period
- 2. Project Description
 - a. Type of development (existing and proposed land uses)
 - b. Project size
 - c. Implementation schedule
 - d. Project location, maps
 - e. Project summary
- 3. Ecological Assessment of Impact
 - a. Impacts (acreage) and extent of disturbance to wetlands (wetland delineation)
 - b. Summary of historic and current on-site and nearby land uses (zoning designations)
 - c. Description of any known cultural resources on the site
 - d. Description of the site in context of other wetlands/water bodies
 - e. Description of the water regime
 - f. Description of the soils
 - g. Description of the plant communities
 - h. Description of any fauna using the site
 - i. Landscape position and geomorphology
 - j. Description of functions provided
 - k. Wetland category rating and buffer requirements
- 4. Mitigation Approach
 - a. Mitigation sequencing followed
 - b. Goals and objectives
 - c. Performance standards to assess each objective
- 5. Proposed Compensation Site
 - a. Site description (location, size, maps):
 - i. Ownership
 - ii. Total area of mitigation site (acres)
 - iii. Current/past land use
 - b. Site selection rationale
 - c. Existing/baseline ecological conditions of the compensation site:
 - i. Acreage of existing wetlands and uplands
 - ii. National Wetland Inventory or local jurisdiction wetland mapping of the site
 - iii. Summary of historic and current on-site and nearby land uses (zoning designations)
 - iv. Description of any known cultural resources on the site
 - v. Description of the site in context of other wetlands/waterbodies
 - vi. Description of the water regime

- vii. Description of the soils
 - viii. Description of the plant communities
 - ix. Description of any fauna using the site
 - x. Landscape position and geomorphology
 - xi. Description of functions provided
 - xii. Wetland rating of any existing wetlands, buffer requirements
 - d. Site constraints
- 6. Preliminary Site Plan
 - a. Explanation of how adequate hydrology will be provided
 - b. Discussion of how project was designed to provide the proposed functions
 - c. Schematic drawings: Change in topography:
 - i. Hydrologic structures
 - ii. Soils
 - iii. Vegetation distributions
 - iv. Habitat attributes
 - v. Buffers
 - d. Section drawings showing relationship of topography to water regime and vegetation
- 7. Final Site Plan/Design
 - a. Site survey and topography
 - b. Water regime including:
 - i. Engineering drawings of water control structures
 - ii. Source of water (volume, velocity, hydro period)
 - c. Soil amendments
 - d. Landscape plans:
 - i. Drawing of proposed plant distribution
 - ii. Location of existing or proposed upland buffers
 - iii. Section drawings showing relationship of topography to vegetation
 - iv. Erosion control
 - v. Location of habitat structure
 - vi. Location of upland buffers
 - vii. Soil amendments
 - e. Construction specifications
- 8. Monitoring Plan
 - a. Vegetation
 - b. Water regime
 - c. Soils
 - d. Fauna
 - e. Functions and values
 - f. Development of habitat structure
 - g. Water quality
 - h. Buffers
 - i. Timetable for reporting monitoring results
- 9. Site Protection
 - a. Physical site protection
 - b. Legal protection
 - c. Buffers
- 10. Maintenance and Contingency Plans
 - a. Maintenance schedule
 - b. Contingency plan:
 - i. Initiating procedure

- ii. Funding
 - iii. Responsible parties
 - 11. Implementation Schedule
 - a. Construction schedule
 - b. Monitoring schedule
 - c. Reporting schedule
 - d. Financial assurance
- B. Permit Conditions. Any compensation project prepared pursuant to this section and approved by the Department shall become part of the application for the permit. The Department will require an additional growing season year for approval of mitigation plan unless the applicant requests an inspection for final monitoring year during the final monitoring year assessment.
- C. Performance Bonds and Demonstration of Competence. A demonstration of financial resources, administrative, supervisory, and technical competence and scientific expertise of sufficient standing to successfully execute the compensation project shall be provided. A compensation project manager shall be named, and the qualifications of each team member involved in preparing the mitigation plan and implementing and supervising the project shall be provided, including educational background and areas of expertise, training and experience with comparable projects. A performance bond, assignment of savings, or other like security will be required by the Department in an amount necessary to provide for future site monitoring and possible corrective action required for compensatory mitigation projects. This bond, assignment of savings, or the security will be released no later than five years after completion of the mitigation project. If the approved mitigation is not completed or fails to meet its success standards, the property owner must agree to a property access release form, with forfeiture of funds after the specified monitoring period.
- D. Waiver. The Department may waive portions of this report if, in its opinion, there is adequate information available on the site to determine its impacts and appropriate mitigation measures.

19.700.112 Advance Shoreline Mitigation Plan

- A. An advance shoreline mitigation plan shall be prepared for restoration projects that are proposed to serve as mitigation for future project impacts.
- B. The plan shall be approved by Thurston County prior to commencing restoration activities, unless the applicant is seeking to use restoration activities already completed within the past ten years as mitigation for new development. In such cases, a mitigation plan including the information in section C below may be submitted at the time of application for new development.
- C. Advance Shoreline Mitigation Plan Contents. The advance mitigation plan must include the following information:
 - 1. Executive summary. Brief description of the history and intent of the project and the responsible parties involved (applicant/permittee).
 - 2. Goals and objectives. Description of the resource type(s) and amount(s) that will be provided, the method of compensation (i.e., restoration, establishment, enhancement, and/or preservation), and the manner in which the resource functions of the compensatory

mitigation project will address the needs of the watershed, eco-region, physiographic province, or other geographic area of interest.

3. Property description. General description of the proposed property or properties on which potential future impacts may occur, including location, size, ownership and current and past land use. Applicants do not need to identify specific impacts when submitting a proposed advance mitigation plan.
4. Baseline conditions. Description of the ecological characteristics of the proposed compensatory mitigation project site. This should include descriptions of historic and existing hydrology, historic and existing plant communities, soil conditions, a map showing the location of the restoration site(s) and the geographic coordinates for the site(s), and other site characteristics appropriate to the type of resource proposed as compensation. The baseline information should also include a delineation of the ordinary high water mark and shoreline jurisdiction on the proposed restoration project site.
5. Restoration Work Plan. Detailed written specifications and work descriptions for the restoration project — including but not limited to — the geographic boundaries of the project; construction methods, timing, and sequence; source(s) of water, including connections to existing waters and uplands; methods for establishing the desired plant community; plans to control invasive plant species; the proposed grading plan, including elevations and slopes of the substrate; soil management; and erosion control measures.
6. Performance standards. Ecologically-based standards that will be used to determine whether the restoration project is achieving its objectives.
7. Monitoring. Description of parameters to be monitored in order to determine if the restoration project is on track to meet performance standards and if adaptive management is needed. A schedule for monitoring and reporting on monitoring results must be included.
8. Maintenance. Description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.
9. Contingency/adaptive management monitoring. Management strategy to address unforeseen changes in site conditions or other components of the restoration project, including the party or parties responsible for implementing adaptive management measures. The adaptive management plan will guide decisions for revising restoration plans and implementing measures to address both foreseeable and unforeseen circumstances that adversely affect compensatory mitigation success.
10. Site protection. Description of the legal arrangements and instrument, including site ownership, that will be used to ensure the long-term protection of the restoration project site. This section should also include a discussion of the width and condition of the perimeter buffer needed to protect the restoration site.
11. Long-term management and maintenance. Description of how the restoration project will be managed after performance standards have been achieved to ensure the long-term sustainability of the resource, including long-term financing mechanisms and the party responsible for long-term management.

12. Financial assurances. Description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the restoration project will be successfully completed, in accordance with its performance standards.

19.700.115 Habitat Management Plan

- A. A Habitat Management Plan (HMP) is a site investigation report to evaluate the potential presence or absence of a regulated fish or wildlife species or habitat, including critical freshwater and saltwater habitats, affecting a subject property and proposed development. This report shall identify how development impacts to fish and wildlife habitat from a proposed project will be mitigated. WDFW Priority Habitat and Species (PHS) management recommendations or bald eagle protection rules outlined in the U.S. Fish and Wildlife Service Bald Eagle Management Guidelines and Conservation Plan for the Pacific Region, as now or hereafter amended, may serve as guidance for this report.
- B. The HMP shall contain a map prepared at an easily readable scale, showing:
 1. The location of the proposed development site
 2. The relationship of the site to surrounding topographic, water features, and cultural features
 3. Proposed building locations and arrangements
 4. A legend which includes a complete legal description, acreage of the parcel, scale, north areas, and date of map revision
 5. WDFW PHS Data, no older than one year from the project **submittal6**. Locations of any identified federally listed species and critical freshwater or saltwater habitats
- C. The habitat management plan shall also contain a report which describes:
 1. The nature and intensity of the proposed development
 2. An analysis of the effect of the proposed development, activity or land use change upon the wildlife species and habitat, including critical freshwater and saltwater habitats, identified for protection
 3. A discussion on how the applicant proposes to mitigate any adverse impacts to wildlife habitats created by the proposed development. (See Sections 19.700.105 Wetland Delineation Report, and 19.700.110 Wetland Mitigation Plan/Report).
- D. Examples of mitigation measures to be included in the HMP report, include, but are not limited to:
 1. Establishment of Buffer Zones. When applicable, the order of sequence for buffer reductions shall be as follows:
 - a. Use of buffer averaging maintaining one hundred percent of the buffer area under the Standard Buffer requirement
 - b. Reduction of the overall buffer area by no more than twenty-five percent of the area required under the Standard Buffer requirement
 - c. Enhancement of existing degraded buffer area and replanting of the disturbed buffer area
 - d. The use of alternative on-site wastewater systems in order to minimize site clearing

- e. Infiltration of stormwater where soils permit. Retention of existing native vegetation on other portions of the site in order to offset habitat loss from buffer reduction
 2. Preservation of native plants and trees essential to maintaining habitat function;
 3. Limitation of access to habitat areas;
 4. Seasonal restriction of construction activities; and
 5. Establishing phased development requirements and/or a timetable for periodic review of the plan.
- E. A HMP shall be prepared by a fish or wildlife biologist, as defined in Section 19.150.655. For proposed single-family dwelling construction, the Department may complete the plan. Fees may be collected for this plan as specified in Community Development Fee Schedule. Where this plan is required for the protection of an eagle habitat, the USFWS Bald Eagle Management Guidelines and Conservation Plan for the Pacific Region shall be utilized.

19.700.120 Geotechnical Report and Geological Report

- A. Whenever development is proposed in a geologically hazardous area or where required in this Program, or when the Department determines that additional soils and slope analysis is appropriate on a particular site, the applicant is required to submit a geotechnical or geological report that evaluates the surface and subsurface soil conditions on the site.
- B. Qualifications.
1. Geotechnical reports shall be prepared by a geotechnical engineer.
 2. Geological reports may be prepared by a licensed geologist or geotechnical engineer.
- C. General Provisions. Report recommendations for earthwork, clearing or siting structures in geologically hazardous areas shall be based on existing site conditions rather than measures that have not yet been successfully approved, designed, or constructed (e.g., slope re-contouring, slope retaining walls, vegetation improvements, bulkheads, etc.). Shoreline stabilization and retaining walls may only be utilized only as an engineering solution where it can be demonstrated that:
1. An existing residential structure or other permitted existing public or private structures or public facilities such as roads or highways, cannot be safely maintained without such measures;
 2. Other non-structural methods of beach stabilization have been considered and determined infeasible; and
 3. The resulting stabilization structure is the minimum necessary to provide stability for the existing structure and appurtenances. Minor repair activities on existing permitted structures (e.g., those that do not involve design modifications, changes in structure location, and/or demolition or abandonment of failed structure and replacement with new structure) are not subject to the following project submittal standards.
- D. Geological Report Submittal Standards. A Geological Report is required for site development proposals that involve development activity or the installation of structures within a geologically hazardous area or shoreline setbacks, or as otherwise required pursuant to Chapters 24.15 and 24.35 TCC as incorporated herein by reference, but do not involve or require engineering design recommendations. The following minimum information is required:

1. Site information regarding the Thurston County Shoreline Environment Designation and critical areas designations that affect site features.
 2. Description of surface and subsurface conditions, including ground materials, vegetation, surface drainage, groundwater, and a preliminary geologic hazard assessment which includes the locations of structures and the identification of the slope and/or coastal processes occurring at the site and factors that contribute to them;
 3. Review of available site information, literature, and mapping;
 4. Detailed description of slope and other topographic features
 5. Conceptual siting of structures and general recommendations, which include methods and practices that avoid and/or reduce slope and shore impacts. Minimum recommendations should include upland and slope drainage control, groundwater control, site vegetation management, and erosion control.
- E. Geotechnical Report Submittal Standards. A Geotechnical Report is required when the Department or a Geological Report determines that a site development proposal requires additional site information such as engineering design recommendations, slope stability analysis, subsurface exploration and testing, coastal process analyses, or construction recommendations. Depending on the level of activity proposed, the report will either be a more limited geotechnical slope evaluation report or a full geotechnical design investigation report as described below.
1. Geotechnical Slope Evaluation Report. A geotechnical slope evaluation report is required when slope stability analyses are confined to addressing only existing surface and/or drainage conditions, including the relationship of natural and constructed slope features to proposed changes in environmental conditions such as drainage, vegetation removal and slope geometry. The following minimum information is required:
 - a. All the information required under Subsection D, above (Geological Report);
 - b. Subsurface data, exploration logs, and testing data, when required by the geotechnical engineer;
 - c. Estimated (or surveyed) site plan with ground surface profiles and typical cross-sections;
 - d. Relative location of ordinary high water (OHW) on the surface profile and cross-sections, which includes mean higher high water (MHHW) for the site location, where applicable;
 - e. Soil strength parameters;
 - f. Stability analysis of existing site;
 - g. Analysis of the relationship of vegetation and slope stability; and
 - h. Conceptual site development plans and cross-sections.
 2. Geotechnical Design Investigation Report. A geotechnical design investigation report is required for site development activities that propose design and construction measures at the slope crest, face and/or toe. If a designed structure does not impact slope stability or coastal processes, the report will not be required to perform all items listed under this section, as long as each item is addressed and the report details why a particular item does not apply. The report shall include all items considered necessary by the engineer to fully address the engineering design requirements of the site. The following minimum information is required:
 - a. All the information required under subsection E.1., above (Geotechnical Slope Evaluation Report);
 - b. Geotechnical requirements and measures to reduce risks;
 - c. Geotechnical criteria used for any designs including all critical dimensions, lateral earth pressures, soil bearing pressures, location and limits of structures on

- d. or near the slope, maximum constructed slope angles, minimum soil reinforcement embedment, soil compaction requirements, and structure heights;
- e. Temporary construction slope stability recommendations and analysis of proposed final site stability measures;
- f. Required construction specifications and construction monitoring procedures;
- g. Revegetation and surface and groundwater management requirements;
- h. Evaluation of erosion potential, recommendations for erosion avoidance and any proposed mitigation measures;
- i. Detailed tabulation of all basic geotechnical engineering test results pertinent to design and construction, and when required for clarification, detailed examples of tests conducted for the project; and
- j. Information outlined in the geotechnical design investigation report site evaluation checklist (See subsection G., below).

F. Additional Requirements for Sites in Geologically Hazardous Areas. When a project site is located within a landslide-prone geologically hazardous area, as classified in Section 24.35.050 TCC, the following additional project submittal requirements shall apply:

1. Erosion Control Information. An evaluation of the erosion potential on the site during and after construction is required. The evaluation shall include recommendations for mitigation, including retention of vegetative buffers and a revegetation program. The geotechnical engineer shall provide a statement identifying buffer areas at the top or toe of a slope based on geotechnical site constraints and the impacts of proposed construction methods on the erosion potential of the slope.
2. Seismic Information. The geotechnical engineer shall submit a statement that the design criteria consider the one-in-one-hundred-year seismic event (an earthquake ground motion that has a 40 percent probability of exceedance in 50 years). Calculations of soil bearing capacity, general soil stability, and wall lateral earth pressures shall be adjusted to reflect a one-in-100 year seismic event and the structural plans for the project shall be reviewed by the geotechnical engineer for consistency with these design criteria. Analysis for the one-in-one-hundred-year seismic event shall be based on a near crustal event having an assumed magnitude of 6.5 and occurring directly below the site. Based on regional studies performed by others, the Department will allow the use of the following minimum general values of horizontal peak ground accelerations for this event:
 - a = 0.2g for fill, alluvial soils
 - a = 0.17g for till, firm glaciated soils
 - a = 0.15g for rock.
 The appropriateness of the above accelerations shall be confirmed by the geotechnical engineer based on the actual site characteristics. Reduction in the above values may be considered when supported by the appropriate analytical evidence. Slope stability, lateral pressures, and liquefaction of the site shall be assessed by using subsurface soil, rock and groundwater conditions, as well as the seismic parameters discussed above.
3. Recommendations on Relative Site Stability. The geotechnical engineer shall make recommendations as to which portion of the site are the least prone to instability and the preferred location of the structure. The limits of any area proposed for grading activity shall be identified.
4. Construction Season Limitation. In general, no excavation will be permitted in landslide-prone geologically hazardous areas during the typically wet winter months. When excavation is proposed, including the maintenance of open temporary slopes, between October 1 and April 30, technical analysis shall be provided to ensure that no environmental harm, threat to adjacent properties, or safety issues would result. In

- addition, recommendations for temporary erosion control and shoring/mitigating measures shall be provided. The technical analysis shall consist of plans showing mitigation techniques and a technical memorandum from the geotechnical engineer.
5. Revisions to Geotechnical Report. Further recommendations shall be provided by the geotechnical engineer should there be additions or exceptions to the original recommendations based on the plans, site conditions, or other supporting data. If the geotechnical engineer who revises the plans and specifications is not the same engineer who prepared the geotechnical report, the new engineer shall, in a letter to the Department, express his or her agreement or disagreement with the recommendations in the geotechnical report and state whether the plans and specifications conform to his or her recommendations.
 6. Plan and Specification Review. The geotechnical engineer shall submit a statement that in his or her judgment, the plans and specifications (if prepared by others) conform to the recommendations in the geotechnical report and that all portions of the site which are disturbed or impacted by the proposed development have appropriate measures or specifications that permit construction to occur while addressing slope stability so that the work does not create additional risk. The statement shall also indicate whether or not a relative gain in slope stability will be achieved after construction is complete.
 7. Construction Inspection. A final inspection report shall be provided by the geotechnical engineer stating that construction has or has not implemented the design recommendations of the geotechnical report, and evaluating of any deviation from the design recommendations.
- G. Geotechnical Design Investigation Report – Site Evaluation Checklist. The following are general report guidelines for geotechnical design investigation reports. The following guidelines are not intended to be all-inclusive. It is the responsibility of the geotechnical engineer to address all factors, which in their opinion are relevant to the site. The checklist information shall be included as part of the geotechnical design investigation report. All items listed below must be addressed in the report. Information shall be provided for those items, which are not relevant to a given site to demonstrate why the items are not applicable.
1. Project Information:
 - a. Site Owner Name;
 - b. Project Proponent Name;
 - c. Shoreline Environment Designation (where applicable); and
 - d. Critical Areas Ordinance (CAO) designations affecting site features.
 2. Project Description:
 - a. Description of proposed structures, site improvements, and adverse impact avoidance and reduction methods.
 - b. Location and total area of the construction zone.

19.700.125 Hydrogeological Report

- A. The hydrogeological report shall address the impact the proposed land use will have on both the quality and quantity of the water transmitted to the aquifer.
- B. The report shall be submitted to the Department and shall address, at a minimum, the following criteria:
 1. Surficial soil type and geologic setting;

2. Location and identification of wells within 1,000 feet of the site;
 3. Location and identification of surface water bodies and springs within 1,000 feet of the site with recharge potential;
 4. Description of underlying aquifers and aquitards, including water level, gradients and flow direction;
 5. Available surface water and groundwater quality data;
 6. Effects of the proposed development on water quality;
 7. Sampling schedules required to assure water quality;
 8. Discussion of the effects of the proposed development on the groundwater resource;
 9. Recommendations on appropriate best management practices (BMPs) or mitigation to assure no significant degradation of groundwater quality; and
 10. Other information as required by the Thurston Public Health District.
 11. The report shall also address the types of pesticides, herbicides and fertilizers that can safely be used for the care of landscaping proposed by the applicant.
- C. The hydrogeologic report shall be prepared by a professional geologist/hydrologist or by a soil scientist with a strong background in geology.
- D. Applications for development or operations with underground storage of petroleum products will be processed using the appropriate procedure as specified in existing Thurston County ordinances.
- E. Analysis for a specific parcel(s), using the criteria outlined below, will be employed to confirm if the soils present require a recharge area designation. Data collection will include, at a minimum, six soil logs to a depth of ten feet (or to a depth four feet below the lowest proposed excavation point whichever is greater) for each acre in the parcel(s) being evaluated. At least one well, two hundred feet or greater in depth with an adequate drilling report, must be available within one mile. The associated data shall be analyzed and included in the hydrogeologic report to determine the presence of highly permeable soils with the recharge area designation. For development proposals within aquifer recharge areas of concern, the hydrogeological report may be based on quarter-quarter section basis where the number of wells within a half-mile radius is thirty-six or more. To facilitate computer analysis, the evaluation may be done on a quarter-quarter section basis using the quarter-quarter section in which a parcel of interest is located and all the surrounding quarter-quarter sections, in place of the half-mile circle.

19.700.130 Cumulative Impacts Report

A. Introduction

Cumulative impacts result when the effects of an action are added to or interact with other effects in a particular place and within a particular time. It is the combination of these effects, and any resulting environmental degradation, that should be the focus of cumulative impact analysis. While impacts can be differentiated by direct, indirect, and cumulative, the concept of cumulative impacts takes into account all disturbances. Thus, the cumulative impacts of an action can be viewed as the total effects on a resource, ecosystem, or human community, i.e., the sum of this action to all other activities affecting that resource no matter what entity is taking the actions.

Unlike direct and indirect impacts assessments, the cumulative impact assessment entails a more extensive and broader review of possible effects. It should be recognized that while no "cookbook" approach to cumulative impacts analysis exists, a general approach is described here.

B. Approach

1. Considerations:
 - a. The proximity of the projects to other similar projects either geographically or temporally;
 - b. The probability of actions affecting the same environmental system, especially systems that are susceptible to development pressures; and
 - c. The likelihood that the project will lead to a wide range of effects or lead to a number of associated projects
2. Resources and Ecosystem Components. To determine which resources are cumulatively affected, consider:
 - a. Whether the resource is especially vulnerable to incremental effects;
 - b. Whether the proposed action is one of several similar action in the same geographical area;
 - c. Whether other activities in the area have similar effects on the resource;
 - d. Whether the effects have been historically significant for this resource; and
 - e. Whether other analyses in the area have identified a cumulative effects concern.
3. Geographic Boundaries and Time Period. An appropriate spatial scope of the cumulative impacts analysis is determined by:
 - a. Identifying a geographic area that includes resources potentially affected by the proposed project;
 - b. Extending that area, where necessary, to include resources affected by the combined impacts of the project and other actions; and
 - c. Combining ecological boundaries with political boundaries when necessary to adequately delineate the assessment area.
4. Past, Present and Reasonably Foreseeable Future Actions. Consider:
 - a. Whether the environment has been degraded, and if so, to what extent,
 - b. Whether ongoing activities in the area are causing impacts, and
 - c. The trends of activities and impacts in the area.
5. Describing the Condition of the Environment. Describe:
 - a. How the environment to be affected by the project functions naturally and whether it has been significantly degraded;
 - b. The specific characteristics of the affected environment and the extent of change, if any, that has occurred in that environment; and
 - c. The natural condition of the environment or, if that is not available, some modified, but ecologically sustainable, condition to serve as a benchmark.
6. Using Thresholds to Assess Resource Degradation. Thresholds should be practical, scientifically defensible, and fit the scale of the analysis. They may be either numeric standards, qualitative standards or based on desired management goals.

19.700.135 Navigation Study

- A. Any overwater structure that will exceed a length of 15% of the shore-to-shore distance shall require a navigation study.
- B. A navigation study, at a minimum, shall include:
 - 1. Demonstration of the need for a structure longer than 15% of the shore-to-shore distance;
 - 2. The proposed structure length and its percent of the shore-to-shore distance;
 - 3. Location of the nearest parks or public access points, especially those that provide haul-outs to recreational, scientific or tribal boaters/paddlers;
 - 4. Number of days for which the tides (low and high) would render navigation under or around the proposed structure to be hazardous for paddlers or motorized boaters (if allowed in the water body); and
 - 5. Any measures that could be taken to minimize impacts to navigation.

19.700.140 Shoreline Mitigation Plan

When required, a Shoreline Mitigation Plan shall include the following:

- A. Requested biological and/or habitat surveys (Section 19.700.145) to determine the existing site condition;
- B. A description of the existing conditions, functions and processes;
- C. Biological goals and performance standards to meet those goals;
- D. A plan for mitigating any development impacts so that the proposed development does not result in a net loss of those identified conditions, functions and processes.
- E. The mitigation must be completed or installed prior to development activity, unless demonstrated infeasible.
- F. The mitigation will require semi-annual progress updates until the Department determines the mitigation is successful.
- G. Mitigation done as part of a Shoreline Mitigation Plan shall be subject to all other mitigation requirements of the Program.

19.700.145 Biological and Habitat Surveys

- A. When a biological or habitat survey is required, it shall be conducted according to the WDFW, Washington Department of Natural Resources, and the U.S. Army Corps of Engineers parameters, where applicable.
- B. A vegetation habitat survey must be conducted according to the most current WDFW eelgrass and macroalgae survey guidelines.

- C. Surveys should be conducted by consultants or staff trained and certified in forage fish spawning survey protocols.

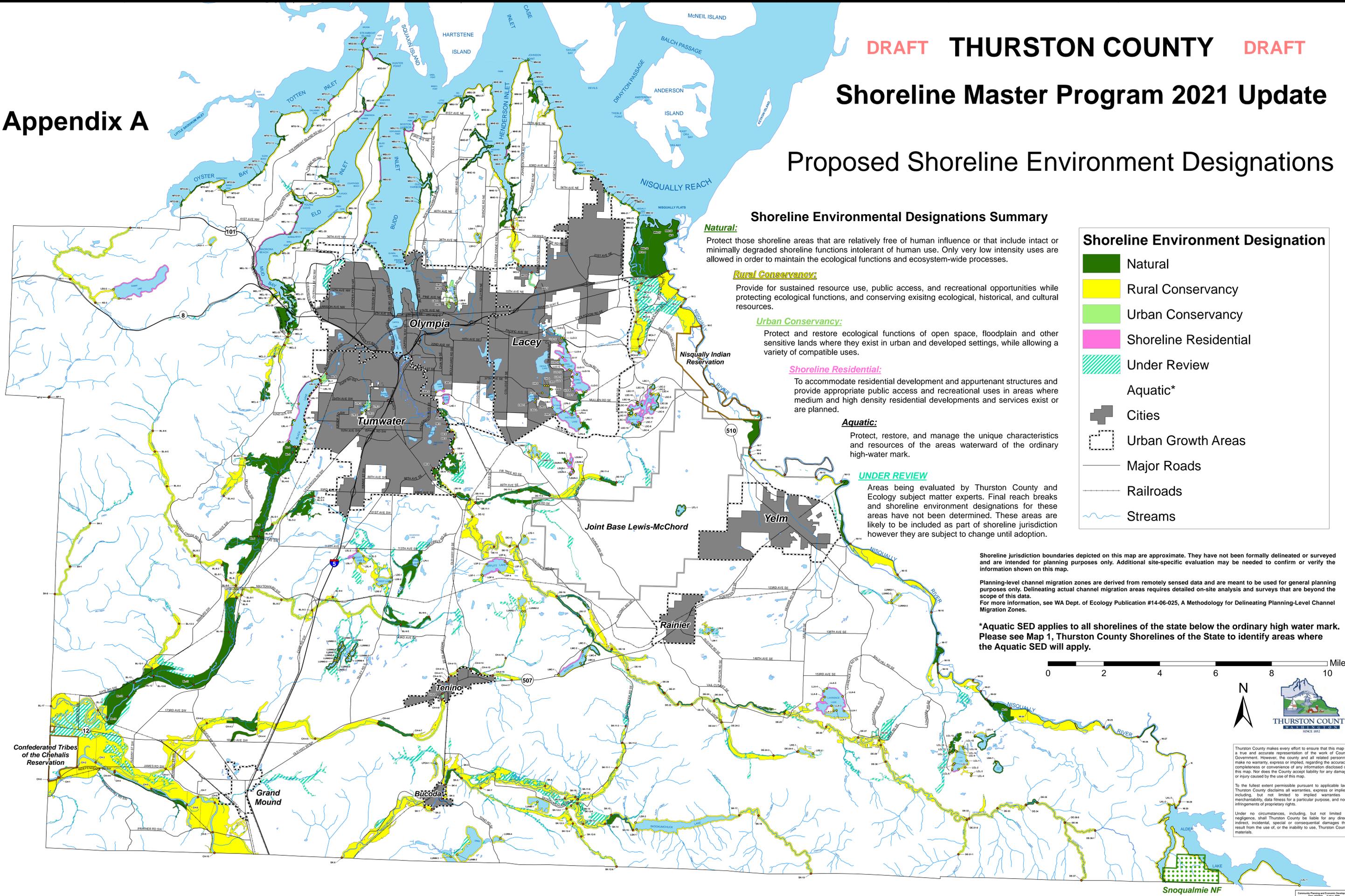
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Appendix A

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Shoreline Master Program 2021 Update

Proposed Shoreline Environment Designations



Shoreline Environmental Designations Summary

Natural:
Protect those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions intolerant of human use. Only very low intensity uses are allowed in order to maintain the ecological functions and ecosystem-wide processes.

Rural Conservancy:
Provide for sustained resource use, public access, and recreational opportunities while protecting ecological functions, and conserving existing ecological, historical, and cultural resources.

Urban Conservancy:
Protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses.

Shoreline Residential:
To accommodate residential development and appurtenant structures and provide appropriate public access and recreational uses in areas where medium and high density residential developments and services exist or are planned.

Aquatic:
Protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high-water mark.

UNDER REVIEW
Areas being evaluated by Thurston County and Ecology subject matter experts. Final reach breaks and shoreline environment designations for these areas have not been determined. These areas are likely to be included as part of shoreline jurisdiction however they are subject to change until adoption.

Shoreline Environment Designation

- Natural
- Rural Conservancy
- Urban Conservancy
- Shoreline Residential
- Under Review
- Aquatic*
- Cities
- Urban Growth Areas
- Major Roads
- Railroads
- Streams

Shoreline jurisdiction boundaries depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm or verify the information shown on this map.

Planning-level channel migration zones are derived from remotely sensed data and are meant to be used for general planning purposes only. Delineating actual channel migration areas requires detailed on-site analysis and surveys that are beyond the scope of this data. For more information, see WA Dept. of Ecology Publication #14-06-025, A Methodology for Delineating Planning-Level Channel Migration Zones.

*Aquatic SED applies to all shorelines of the state below the ordinary high water mark. Please see Map 1, Thurston County Shorelines of the State to identify areas where the Aquatic SED will apply.



Thurston County makes every effort to ensure that this map is a true and accurate representation of the work of County Government. However, the county and all related personnel make no warranty, express or implied, regarding the accuracy, completeness or convenience of any information disclosed on this map. Nor does the County accept liability for any damage or injury caused by the use of this map.

To the fullest extent permissible pursuant to applicable law, Thurston County disclaims all warranties, express or implied, including, but not limited to, implied warranties of merchantability, data fitness for a particular purpose, and non-infringements of proprietary rights.

Under no circumstances, including, but not limited to, negligence, shall Thurston County be liable for any direct, indirect, incidental, special or consequential damages that result from the use of, or the inability to use, Thurston County materials.

Appendix B: Mitigation Options to Achieve No Net Loss for New or Re-Development Activities

B.1 General Mitigation Standards

- A. Critical area impacts will be mitigated for per Section 19.400.115, Title 24 TCC, and the Thurston County HCP, once adopted.
- B. After mitigation sequencing is applied in accordance with Section 19.400.110(A), compensatory mitigation selection for shoreline vegetation buffers shall be guided by this appendix.
- C. Some projects may result in multiple types of impacts to shoreline ecological functions, each of which may require compensatory mitigation.
- D. Mitigation is not required for impacts outside of the Standard Buffer. Applicable critical area, stormwater, and site planning buffers, setbacks, and mitigation sequencing standards shall still apply. See Figure B.1-1.

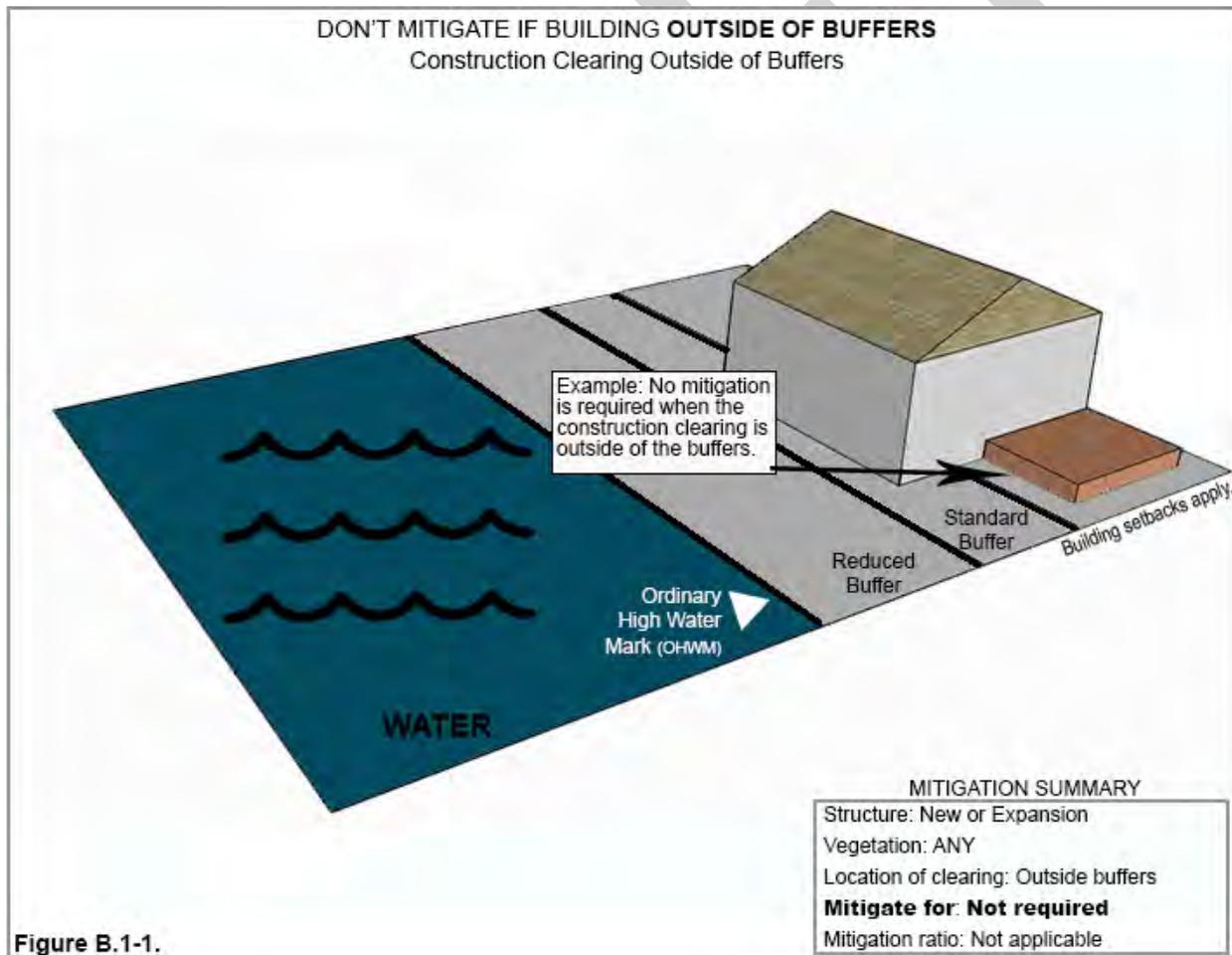


Figure B.1-1. Clearing outside of Standard Buffer

- E. Unless otherwise specified during the agency review process, mitigation for new or re-development activity shall be based on a ratio discussed in B.2 below.
- F. Where a site-specific Shoreline Mitigation Plan (see Section 19.700.140) can demonstrate no net loss of shoreline ecological functions, alternate mitigation ratios may be applied.
- G. Shoreline Mitigation Plans (see Section 19.700.140) shall utilize applicable information from the *Thurston County Shoreline Inventory and Characterization* report, as supplemented with site-specific data.
- H. Mitigation planting or other mitigation options shall occur adjacent and parallel to the OHWM of the shoreline as a first preference. Depending on site conditions, mitigation may be allowed away from the shoreline edge, if the actions are replacing in-kind functions and would achieve greater ecological benefit. Where demonstrated to be feasible through mitigation sequencing, this may include mitigation on adjoining upland parcels under the same ownership as the shoreline parcel requiring mitigation.
- I. Based on required mitigation and mitigation sequencing in accordance with this Program, a combination of mitigation options may be utilized to achieve no net loss of shoreline ecological functions. In-kind measures are typically preferred over out-of-kind measures. See applicable sections below for preferred order of compensatory mitigation.
- J. If public access is included in the development, mitigation may be reduced by up to one half, provided all other applicable provisions are met. Where this option is utilized to mitigate for impacts to ecological functions, public access projects shall incorporate measures to improve and protect ecological functions to the greatest extent feasible at the project location. This could include placement of a conservation easement on portions of the property to adequately protect ecological functions while allowing public access.

B.2 Mitigation Standards for Specific Development Activities

A. Vegetation Clearing

Existing Vegetation Being Removed	Mitigation Requirement Between the Standard and Reduced Standard Buffers	Mitigation Requirement Waterward of the Reduced Standard Buffer
Grass/Lawn (existed at least 5yrs prior to activity)	Replace ½ of the equivalent of the cleared area with native vegetation (see Figure B.2-1a)	Replace the equivalent of the cleared area with native vegetation (see Figure B.2-1d)
Non-Native Vegetation/Landscaping (groundcover other than lawn, shrubs, trees)	Replace the equivalent of the cleared area with native vegetation (see Figure B.2-1b)	Replace 2 times the equivalent of the cleared area with native vegetation
Native Vegetation (groundcover, shrubs, trees)	Replace 2 times the equivalent of the cleared area with native vegetation (see Figure B.2-1c)	Replace 4 times the equivalent of the cleared area with native vegetation

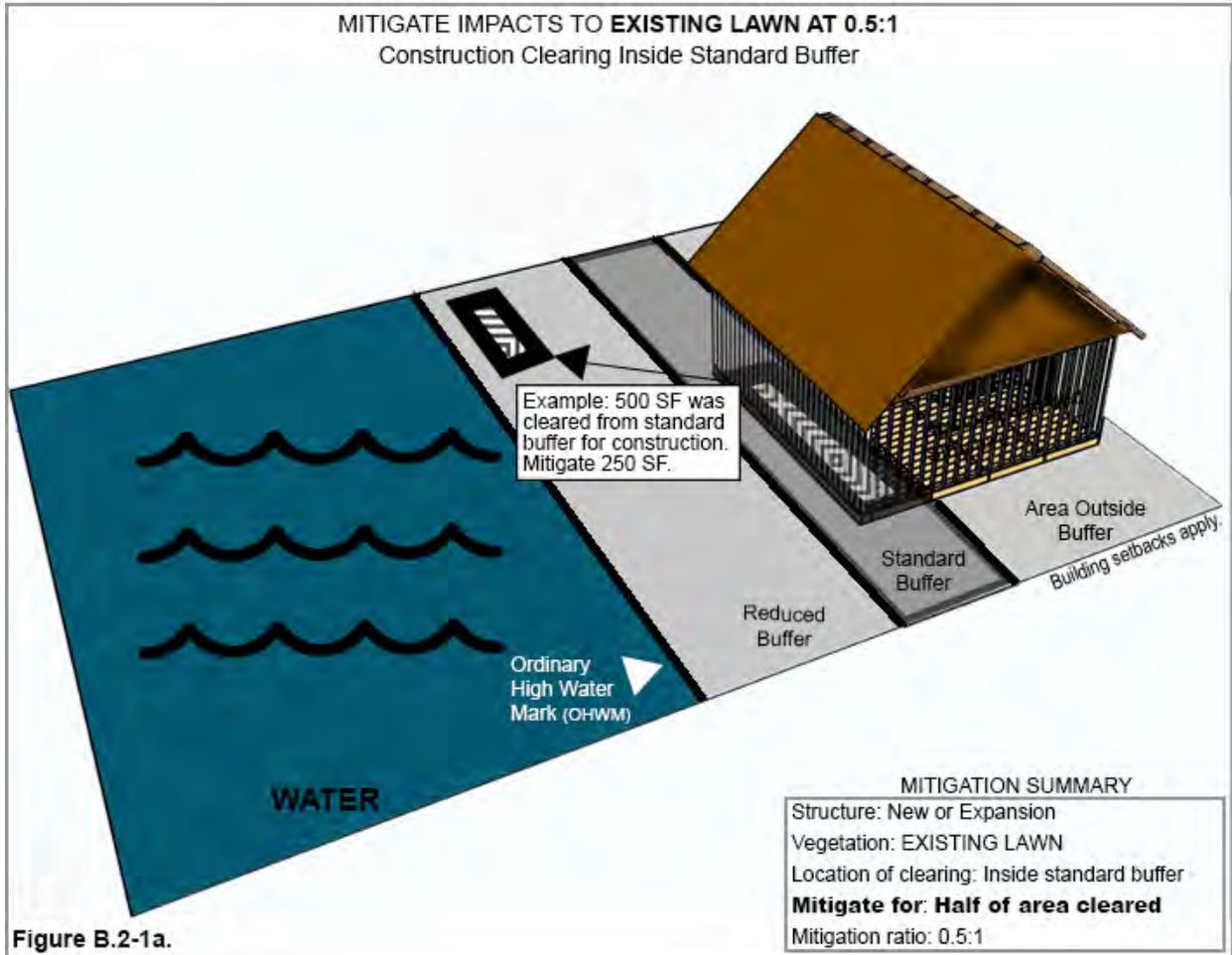


Figure B.2-1a. Mitigation for clearing existing lawn within the Standard Buffer

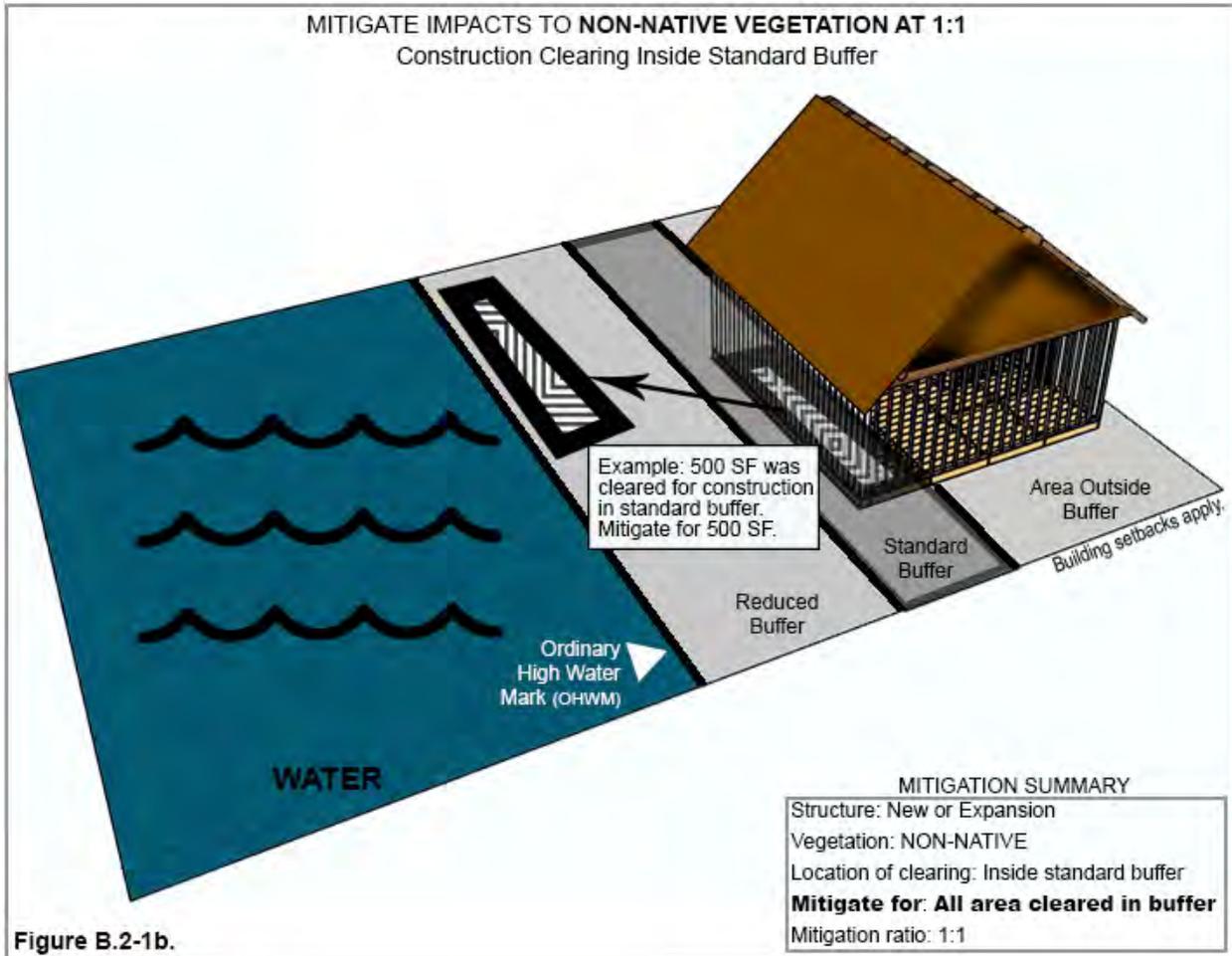


Figure B.2-1b. Mitigation for clearing non-native vegetation within the Standard Buffer

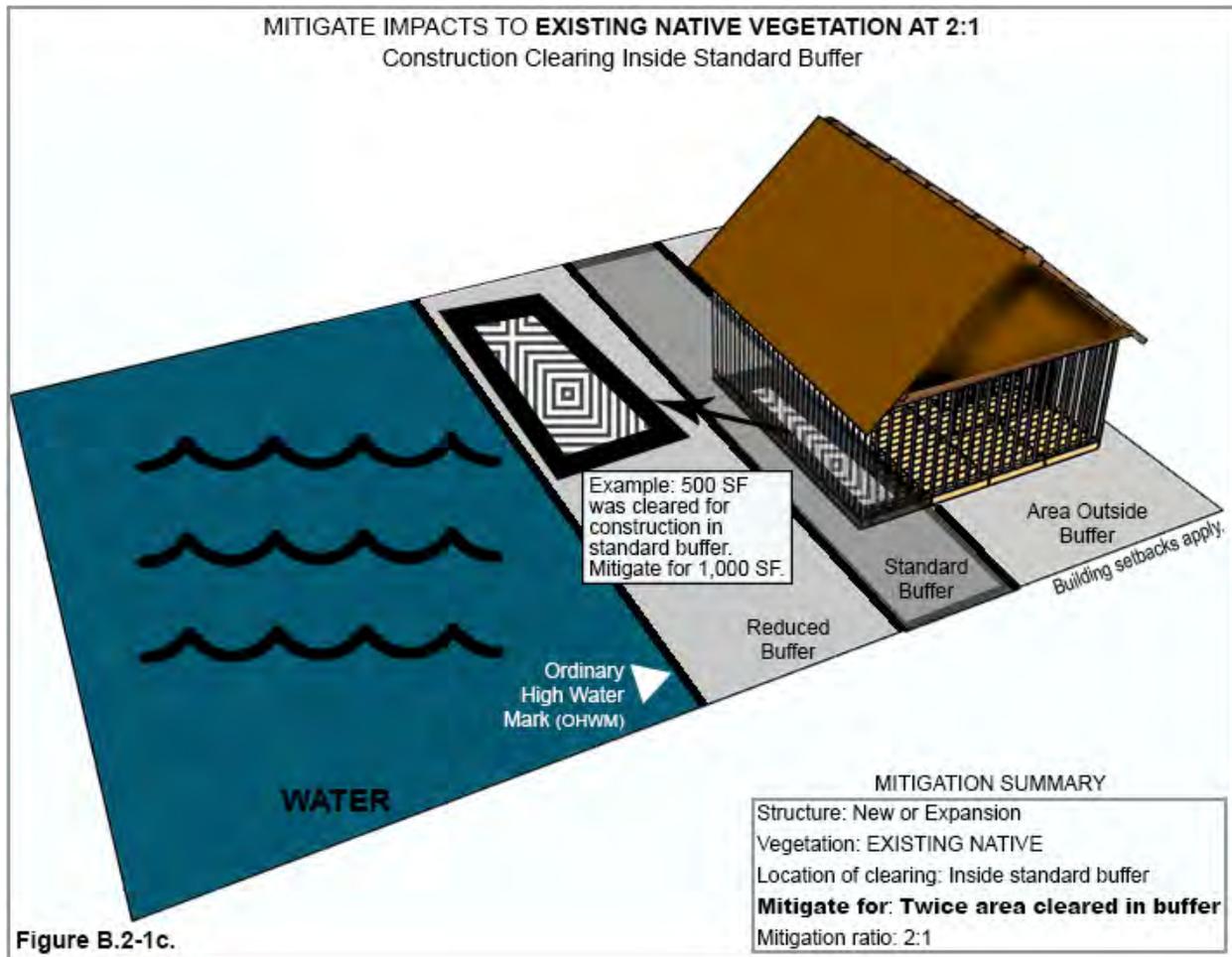


Figure B.2-1c.

Figure B.2-1c. Mitigation for clearing native vegetation within the Standard Buffer

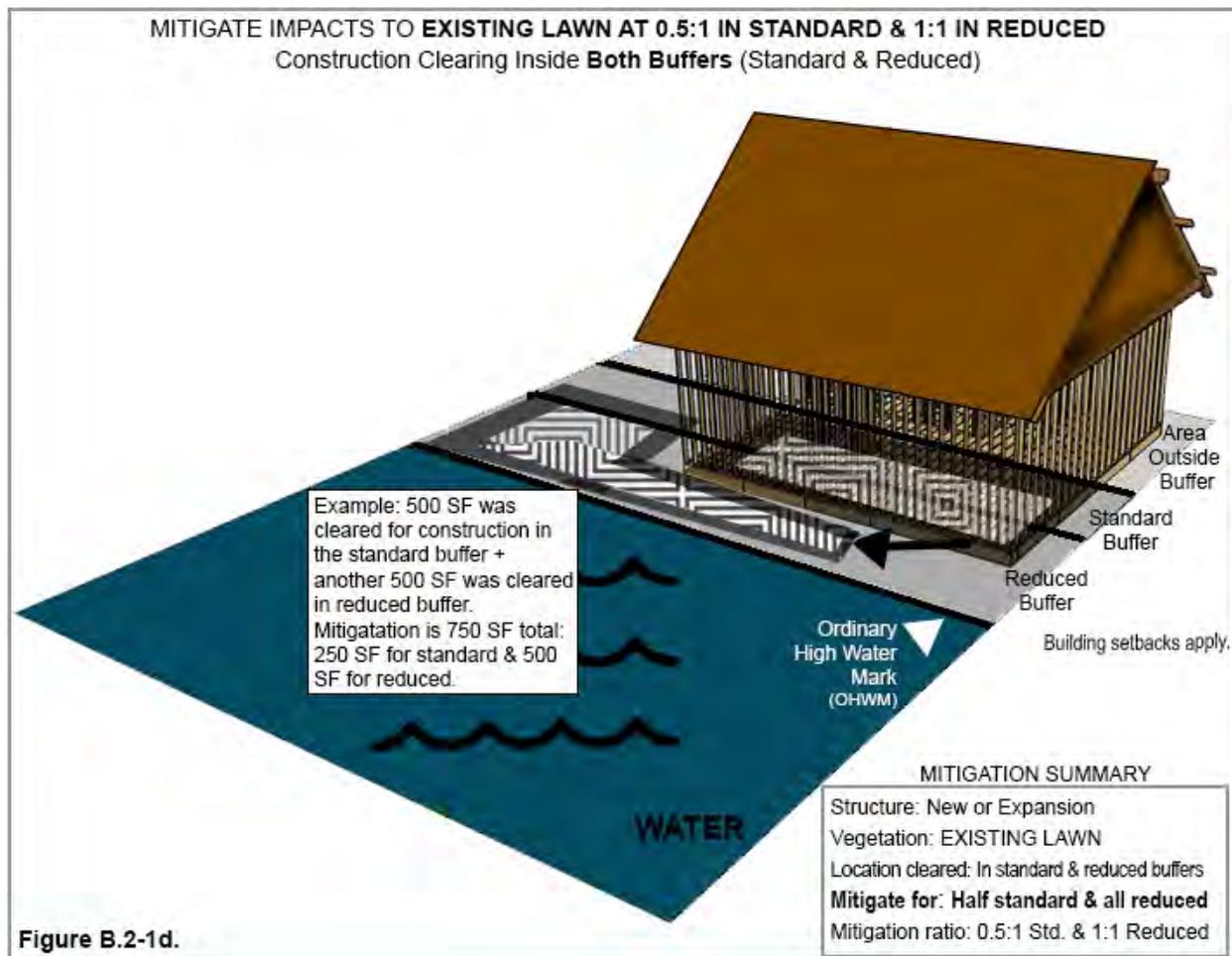


Figure B.2-1d. Mitigation for clearing existing lawn within the Standard and Reduced Buffers

- B. Alternative standards for vegetation clearing. Where it can be demonstrated that intact native vegetation outside of the required buffer provides greater ecological function than previously cleared or developed areas within the buffer, permanent retention of the intact native vegetation outside of the buffer may be allowed as an alternative, consistent with the vegetation replacement ratios listed above. Such areas may require a conservation easement and shall be recorded under a notice to title, and marked with standard buffer signage.
- C. Alternative standards for impervious surface installation:
1. Decks and semi-pervious surfaces: for installation of pervious or semi-pervious surfaces such as non-solid (grated) surface decks in place of existing lawn or other non-native vegetation, pervious area may be subtracted from the above mitigation requirements.

Planning Commission Option: Include statement that decks will be considered pervious if designed to allow water to infiltrate ground below, and ground below deck is not compacted or otherwise made impervious.

2. Rain garden option: for new or expanded impervious surface that replaces grass, lawn or non-native landscaping, rain garden installation may be utilized in lieu of the above replanting specifications. Rain gardens shall generally be 75-100% of the new impervious surface size, depending on soil type. Rain gardens may not be appropriate in all locations due to soil type or slope. Staff shall be consulted prior to selecting this option. For additional guidance, see *Rain Garden Handbook for Western Washington*, Washington State University Extension, 2013, now or as hereafter amended. <https://fortress.wa.gov/ecy/publications/documents/1310027.pdf> See Figure B.2-2.

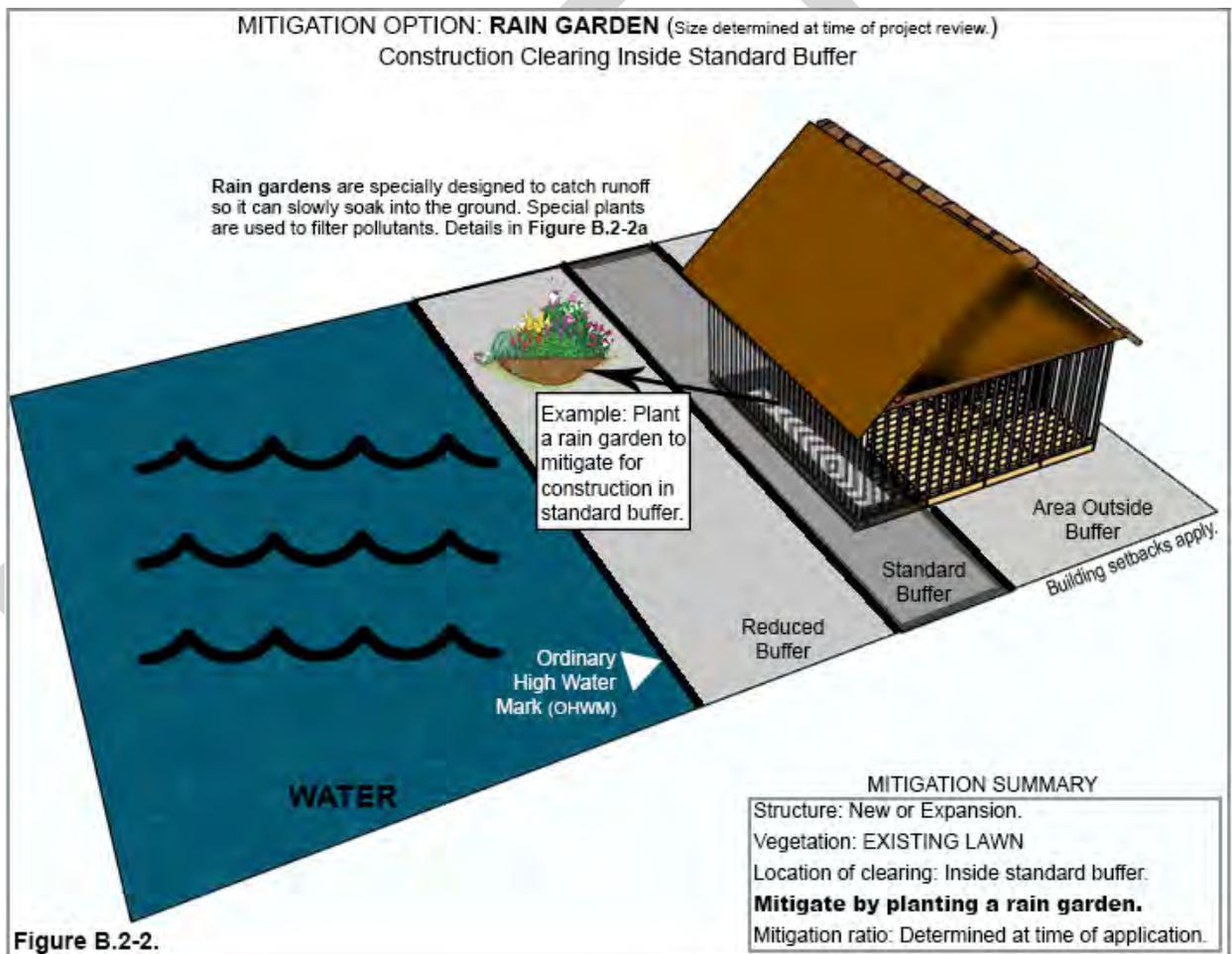


Figure B.2-2. Mitigation using raingarden option for clearing in Standard Buffer.

3. Impervious Surface Removal Credit: removal of impervious surface of an equivalent or greater area and replacement with vegetation may be utilized for mitigation credit at a 1:1

ratio, so long as the existing impervious surface to be removed is within the Standard or Reduced Standard Buffer. When such removal occurs outside of the Standard Buffer, a 0.5:1 ratio will be applied. See Figure B.2-3.

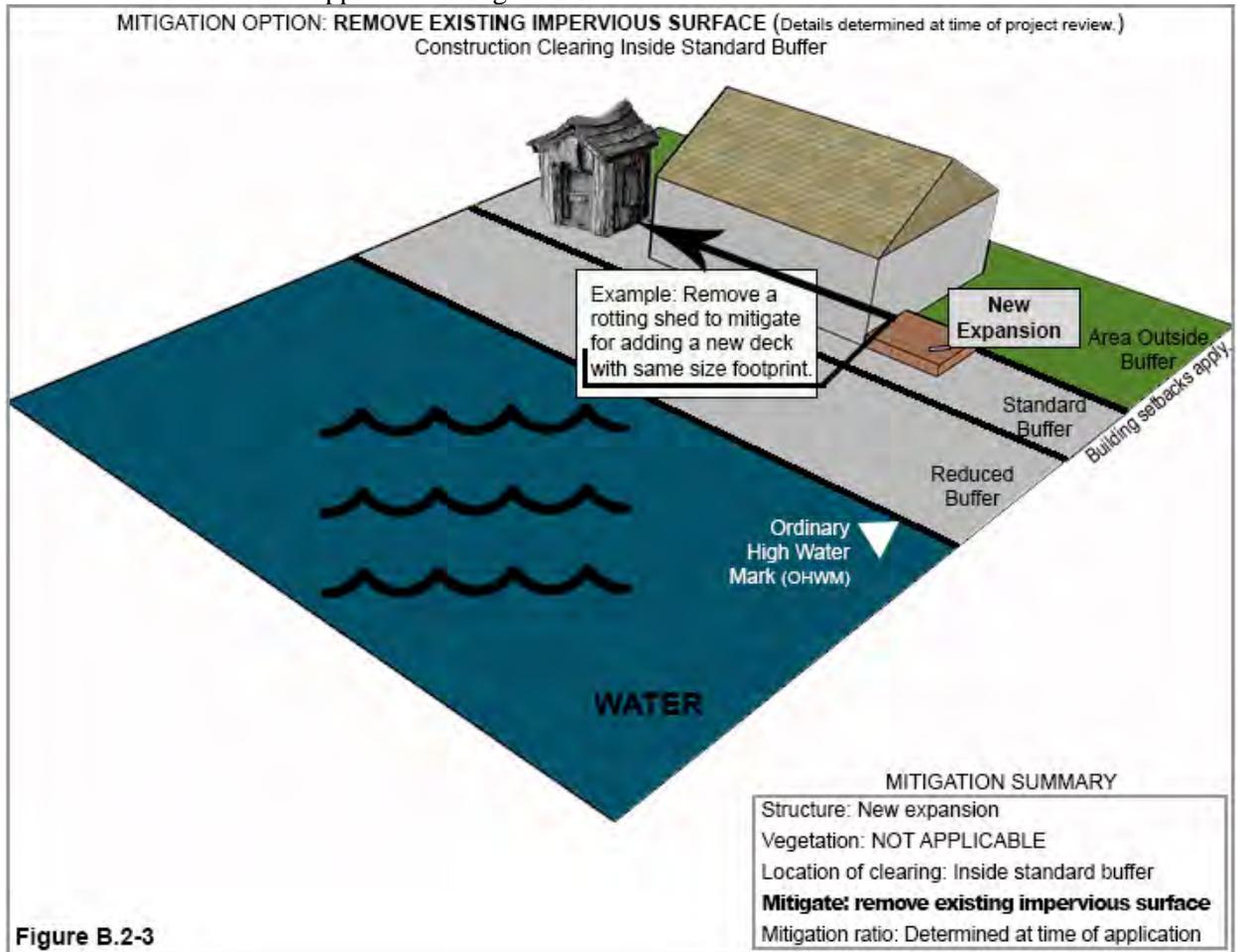


Figure B.2-3. Mitigation using removal of impervious surface option for clearing in Standard Buffer

4. Impervious surface installation in areas lacking vegetation: where new impervious surfaces are installed on surfaces generally lacking vegetation, such as existing parking or driving surfaces, mitigation may generally be achieved by implementing appropriate stormwater treatment methods for new impervious surface areas.

B.3 New and Replacement Shoreline Armoring or Barrier Structures (in order of preference)

- A. If new, removal of another barrier structure at a 1:1 ratio (length), or other opportunities identified in the *Thurston County Shoreline Inventory and Characterization Report*.
- B. If replacement exceeds 50% of existing structure, use soft or hybrid alternative(s) such as adding logs or stumps.

- C. For new or replacement:
1. Remove fill and move armoring landward.
 2. Add a “pocket beach” to the design, where appropriate based on shoreline functions.
 3. Add overhanging vegetation along the bulkhead edge or other portion of shoreline currently not providing such features, when other options are not available.
 4. Add beach nourishment, where determined appropriate in consultation with agencies with jurisdiction and affected tribes.

B.4 New and Replacement Overwater Structures (in order of preference)

- A. For new development, remove any additional legally established existing over-water or in-water structures that are not the subject of the application and are not otherwise required to be removed because they are illegal or are the subject of a required clean-up effort.
- B. For new or replacement, add site appropriate habitat features in consultation with agencies with jurisdiction.
- C. For dock additions, partial dock replacements, or other modifications in marine waters and salmon-bearing lakes, replace areas of existing solid over-water cover with grated material or use grating on those altered portions of docks if they are not otherwise required to be grated.

Public Hearing Option: Do not require grating for waterbodies that do not support anadromous fish, such as salmon.

- D. Plant native vegetation along the shoreline immediately landward of the OHWM consisting of trees and/or shrubs native to Thurston County and typically found in undisturbed areas adjacent to the subject waterbody. When shoreline plantings are the only mitigation option for a given overwater proposal, the new or expanded footprint must be compensated for at a 1:1 planting area ratio with required trees planted on 10-foot centers and/or shrubs planted on 5-foot centers. Native groundcover can be supplemental to the planted shoreline area, but does not count toward the total square footage requirement.
- E. Remove or ecologically improve hardened shoreline, including existing launch ramps or hard structural shoreline stabilization. Improvements may consist of softening the face and toe of the stabilization with soil, gravel and/or cobbles and incorporating vegetation or large woody debris.
- F. Remove man-made debris waterward of the OHWM, such as car bodies, oil drums, concrete or asphalt debris, remnant docks, or other material detrimental to ecological functions and ecosystem-wide processes.
- G. Place large woody debris if consistent with local, state and/or federal regulations.
- H. Participate in an approved mitigation banking or in-lieu-fee program, after consideration of feasible, environmentally preferable on-site options.

B.5 Alternative Mitigation Options

The following alternative mitigation options may be utilized where determined by the Director or their designee to be appropriate to achieve no net loss of ecological functions, either in combination with or in lieu of the options provided in Sections B.2 - B.4.

- A. Transfer of Development Rights, if applicable (TCC 20.62)
- B. Programmatic mitigation options such as mitigation banking or, in-lieu fee (if available). For Thurston County, the Thurston County In-Lieu Fee program shall be utilized for wetland impacts, once the program is adopted. Impacts to Oregon spotted frog habitat shall be mitigated according to the Thurston County HCP, once adopted.
- C. Documented voluntary restoration activities which occur on the property after adoption of this Program and are not related to compensatory mitigation required by Thurston County. A mitigation report (see Chapter 19.700.110) documenting current conditions must be agreed upon by Thurston County permit reviewers before implementing the mitigation plan in order to establish baseline conditions. Mitigation credit for the voluntary restoration/enhancement activities shall be determined upon application for the proposal that requires mitigation.
- D. Other options from Chapters 5-8 of the *Thurston County Shoreline Inventory and Characterization* report and Appendix C of this Program, where demonstrated that such options shall achieve no net loss of shoreline ecological functions for the proposed development activity. Such options may not be utilized if they have been specifically identified for use of public restoration funds, except where approved through a public-private partnership.
- E. Other options commensurate with the level of proposed impact, as may be identified in approved guidance principles for local jurisdictions that provide options to achieve no net loss of shoreline ecological functions.

Appendix C. Shoreline Restoration Plan

C.1 Introduction

This Restoration Plan (Plan) was prepared as an element of the Thurston County Shoreline Master Program (Program) update, as required in the Shoreline Management Act (“the Act”) of 1971 and the State’s Guidelines (Washington Administrative Code 173-26), adopted in 2003. This Master Program process will update Thurston County Code, Title 19 Shoreline Master Program.

This Program update contains goals, policies and regulations (development standards) that govern the use and development of the County’s shorelines, including all marine waters, rivers (over 20 cfs), lakes (20 acres or greater) and their associated wetlands. The Program is designed to protect ecological functions, while accommodating appropriate uses and modifications along the shorelines. Per the State Guidelines, the Program must include a “plan for the restoration of the ecosystem-wide processes and individual ecological functions on a comprehensive basis over time.”

This Plan, in conjunction with the required permit-level mitigation, will outline Thurston County’s strategy for achieving no net loss of shoreline ecosystem-wide processes and functions. The restoration activities presented in this Plan include present and future regional recovery efforts and strategies which may be implemented by local, state, or federal governments; tribes; non-governmental organizations (NGOs); and private citizens.

Many of the restoration opportunities noted in this Plan may affect private property. *It is not the County’s intention to require restoration on private property or to commit privately owned land for restoration purposes without the willing cooperation and participation of the affected landowners.* However, the County is eager to support and foster restoration actions on public and private lands and strongly encourages private landowners to help implement this Plan. In addition, private landowners who are required to provide mitigation for development-related impacts may wish to implement actions noted in this Plan to meet their mitigation obligations.

C.2 Defining Restoration

A. Restoration - General

WAC 173-26-020(31) defines Restoration as “the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions.”

The State’s Guidelines require that “provisions should be designed to achieve overall improvements in shoreline ecological functions over time, when compared to the status upon adoption of the master program”. These definitions emphasize the repair of past damage to natural resources and habitats, but not necessarily re-creating pristine or historic conditions. In addition, addressing the ecosystem processes and functions- not simply recreating the habitat or structure- is important for successful restoration.

Therefore, this Plan emphasizes restoring impaired processes and protecting those which are currently functioning. Restoration tends to go beyond maintaining the status quo; it takes steps to improve the existing conditions and resources of the shoreline.

Restoration, in the context of this plan, is non-regulatory, voluntary, and most often undertaken by public agencies, environmental stewardship groups, or local governments typically in partnership with private landowners. Protection / Preservation and Mitigation measures, while often considered under the general definition of Restoration, need to be defined separately for the purposes of this Plan and the Program.

B. Restoration and Protection

Protection / Preservation are achieved in the Program through a few avenues. First, the Environment Designations have identified the shorelines which retain, or have the potential to retain, significant ecological functions. The policies and development standards for those designations then provide increased protection of those processes and functions.

In addition to Protection / Preservation through regulatory measures, a number of voluntary actions and programs are available. These include Protection / Preservation through a private donation of a parcel or easement, and fee-simple acquisition or acquisition of a conservation easement by a land trust or government agency through various grant opportunities.

C. Restoration and Mitigation

Mitigation, in regards to the Program, is achieved primarily through the policies and development standards when followed for the individual permitted project. Mitigation is typically a required sequence of actions to offset ecological impacts by taking steps to avoid and minimize project impacts prior to compensating for them. In some cases, actions typically considered “restoration” may be an element of mitigation. However, it would not be categorized as voluntary restoration if it is a required action as part of permitted development.

D. Restoration and No Net Loss

WAC 173-26-186(8)(b) directs Shoreline Master Programs to “include policies and regulations designed to achieve no net loss of those ecological functions”. Simply stated, no net loss means that, over time, the existing condition of the shoreline ecological functions should remain the same as they were when the Master Program update was implemented. This is achieved through two processes: regulatory compliance and restoration planning.

Through establishment of Environment Designations and implementation of Program policies and regulations that protect the shoreline, Thurston County should maintain shoreline ecological functions while allowing appropriate development.

However, regulation and mitigation alone may not be able to prevent all cumulative impacts to the shoreline environment. This is due primarily to on-going degradation from existing development or past actions. Unanticipated impacts from permitted or exempt activities may add to the cumulative impacts. Therefore, both protection and restoration through regulation and voluntary actions are needed to ensure that no net loss is achieved. This Plan will help identify and prioritize those voluntary actions to have the greatest benefit to shoreline ecological functions, and may also result in net improvement to those functions over time.

The Thurston County Cumulative Impacts Analysis and No Net Loss Report outlines how the Program policies, regulations and this Restoration Plan plans to achieve no net loss of shoreline ecosystem-wide processes and functions.

C.3 Restoration Goals and Policies

The overall “Restoration and Enhancement” goal, as addressed in Chapter 19.300 (General Goals and Policies) of the Master Program, is to: “Re-establish, rehabilitate and/or otherwise improve impaired shoreline ecological functions and processes through voluntary and incentive-based public and private programs and actions that are consistent with the Shoreline Restoration Plan.”

The Restoration and Enhancement section also contains the following General Polices:

- A. Integrate and facilitate voluntary and incentive-based cooperative restoration and enhancement programs between local, state, and federal public agencies, tribes, non-profit organizations, and landowners to address shorelines with impaired ecological functions and/or processes.
- B. Identify restoration opportunities through the *Thurston County Shoreline Inventory and Characterization Report* and authorize, coordinate and facilitate appropriate publicly and privately initiated restoration projects. This shall be accomplished through the Shoreline Restoration Plan, which addresses the following:
 - C. Identification of degraded areas and sites with potential for ecological restoration;
 - D. Restoration goals and priorities;
 - E. Existing and on-going projects and programs;
 - F. Additional projects and programs needed to achieve the restoration goals;
 - G. Identifying funding sources, timelines and benchmarks for implementation; and
 - H. Monitoring effectiveness of restoration projects.
- I. Encourage and facilitate restoration and enhancement projects for PHS (WDFW, PHS Program).
- J. Habitat protection and restoration project prioritization, location and design should utilize the most current, accurate and complete scientific and technical information to promote resiliency of habitats and species.

This Plan integrates the goals and policies of other, existing management efforts (see Section C.5, Existing Programs and Funding Sources) and attempts to categorize and prioritize them in a manner which will be useful to a variety of implementation organizations.

C.4 Identification of Degraded Sites with Restoration Potential

- A. Resources for Identifying Potential Restoration and Protection Projects. The following resources have been, or could be, used to identify and prioritize future restoration projects.
 1. Marine Project Sources. Primary sources which could be used to identify degraded areas and areas with restoration /protection potential for the marine and estuarine shoreline include:
 - a. *Management Measures for Protecting and Restoring the Puget Sound Nearshore* (Clancy et al., 2009) Provides a systematic organizational framework for describing management measures that can be used to develop and

- evaluate Puget Sound nearshore restoration alternatives composed of combinations of management measures applied at individual sites.
- b. Priority Habitats and Species (PHS) (WDFW). This dataset is updated periodically to identify where important and unique habitats are located and where species of federal, state and local importance may be found. These areas should be restored and protected to the greatest extent feasible.
 - c. Habitat Work Schedule (HWS). Online database, organized according to Lead Entity Region (South Sound), which includes identified, proposed, and ongoing restoration and protection projects. Projects seeking salmon restoration funds will often first need to be identified in HWS. Projects on the Lead Entity's state-mandated Three-Year Work Plan, which are reviewed and scored by a Technical Advisory Group, are also listed in HWS.
 - d. Thurston County Transportation Improvement Plan / Stormwater Improvement Plans. These annually updated improvement plans identify and prioritize projects such as replacement or repair of undersized or fish-passage barrier culverts, and where to implement LID retrofits or restoration of floodplains for storage and habitat improvements. While the focus of the prioritization is on transportation or stormwater conveyance improvements, ecological restoration and whether or not the project has additional funding plays a role in project selection and prioritization.
 - e. Puget Sound Nearshore Ecosystem Restoration Project (PSNERP). Goal is to identify significant ecosystem problems, evaluate potential solutions, and restore and preserve critical nearshore habitat. PSNERP represents a partnership between the U.S. Army Corps of Engineers (Corps), state, local, and federal government organizations, tribes, industries, and environmental organizations. PSNERP has identified the top restoration projects for the region, some of which are in Thurston County.
2. Freshwater Project Sources. Primary sources which could be used to identify degraded areas and areas with restoration /protection potential for the freshwater shoreline include:
- a. PSNERP Puget Sound Watershed Characterization Project: Water Flow Processes (Department of Ecology, 2010). This assessment produces a "watershed management" map showing where protection and restoration actions are more likely to succeed and will most benefit the water flow processes of the watershed. Habitat and other scored elements to follow.
 - b. PHS (WDFW). This dataset is updated periodically to identify where important and unique habitats are located and where species of federal, state and local importance may be found. These areas should be restored and protected to the greatest extent feasible.
 - c. Habitat Limiting Factors Analyses (Kerwin 1999, Haring & Konovsky 1999, Kittel 2002, and Smith & Wenger 2001). These reports, done for each Water Resource Inventory Area (WRIA), identified the current riparian conditions, health, biological attributes and the factors which are limiting the proper functioning of each mapped stream.
 - d. Habitat Work Schedule (HWS). Online database, organized according to Lead Entity Region (South Sound) which includes identified, proposed, and ongoing restoration and protection projects. Projects seeking salmon restoration funds will often need to be identified in HWS. Projects on the Lead Entity's mandatory Three-Year Work Plan, which are reviewed and scored by a Technical Advisory Group, are also listed in HWS.

- e. Thurston County Transportation Improvement Plan (TIP) / Stormwater Capital Improvement Project Plan (CIP). These annually updated improvement plans identify and prioritize items such as replacement or repair of undersized or fish-passage barrier culverts, and where to implement LID retrofits or restoration of floodplains for storage and habitat improvements. While the focus of the prioritization is on transportation or stormwater conveyance improvements, ecological restoration and whether or not the project has additional funding plays a role in project selection and prioritization.
- f. Thurston County Habitat Conservation Plan (HCP). This plan and its associated documents contain information about potential projects for the restoration of Oregon spotted frog (OSF) habitat. The OSF is federally listed as a threatened species, and coverage for impacts to OSF habitat is proposed to be covered in the County’s HCP. Potential restoration sites for OSF will overlap with shoreline jurisdiction in several places, as OSF habitat is comprised of freshwater riparian areas, wetlands and floodplains associated with water bodies included in the County’s SMP jurisdiction.

B. Identified Management Options for Restoration and Protection Projects.

Recommendations and options for managing marine and freshwater shorelines are provided in the following tables. The management options for managing the marine shoreline were taken from “Management Measures for Protecting and Restoring the Puget Sound Nearshore” (Clancy et al., 2009) as well as “Protecting Nearshore Habitat and Functions in Puget Sound” (EnviroVision, et al., 2010). The management options for the freshwater shorelines were taken from “Land Use Planning for Salmon, Steelhead, and Trout” (Knight, 2009) and from “Over-water Structures: Freshwater Issues” (Carrasquero, 2001). Many of the management options may be considered for more than one recommendation.

For each waterbody, readers should look at the general management recommendation outcome from the PSNERP Strategies for Nearshore Protection and Restoration in Puget Sound (Cereghino et al., 2012)(for marine waterbodies), or the Puget Sound Water Flow Characterization (Stanley et al., 2012) (for freshwater waterbodies) studies. If a general recommendation from these studies lists two categories of general recommendations, users should consider the management options for both recommendation categories. The management options listed for each general recommendation may or may not apply, depending on the specifics of each waterbody.

Table C.4-1. General Management Recommendations and Options for Marine and Estuarine Shoreline Projects

General	Management Options
<p>Recommendations</p>	<p>General management measures (shown with round bullets) are taken from PSNERP Technical Report 2009-01 “Management Measures for Protecting and Restoring the Puget Sound Nearshore” (Clancy et al. 2009). Definitions for these headings are provided in italics below each heading.</p> <p>http://www.pugetsoundnearshore.org/technical_papers/mangement_measure.pdf</p>

	<p>Specific policy options (shown with arrow bullets) are taken from “Protecting Nearshore Habitat and Functions in Puget Sound” (EnviroVision, et al. Revised 2010). http://wdfw.wa.gov/publications/00047/wdfw00047.pdf</p> <p>*The suggested management options listed below may also work in the other “Recommendations” categories.</p>
<p>Protect</p> <p>Role: Protect existing resources, limit future impairment, influence human behaviors</p>	<p><u>Protect important nearshore areas for plants, animals, fish, and people</u></p> <ul style="list-style-type: none"> • Habitat Protection Policy and Regulation <i>The long-term protection of habitats (and associated species) and habitat-forming processes through zoning, development regulations, incentive programs and other means.</i> <ul style="list-style-type: none"> ➤ Identify and designate critical habitat features such as forage fish spawning habitat, aquatic vegetation communities, nearshore salmon habitat, feeder bluffs, intact beaches, marine riparian areas, and all marine vegetation within intertidal and subtidal zones (including kelp, eelgrass, and wetland plants) and protect them (and their functions) under a Natural or other type of conservancy shoreline environmental designation and SMP regulations. ➤ Provide protected shallow water migration corridors, especially between estuaries and marine waters through shoreline designations ➤ Prohibit grounding of floats, rafts, docks and vessels ➤ Prohibit placement of overwater structures over marine vegetation ➤ Prohibit placing docks, piers, and mooring buoys in areas containing sensitive, unique, or high-value fish and shellfish habitat. ➤ Do not allow construction activity during egg deposition and incubation periods • Property Acquisition and Conservation <i>Transfer of land ownership or development rights to a conservation interest to protect and conserve resources, enable restoration or increase restoration effectiveness.</i> <p><u>Work together to ensure continued understanding and enjoyment of nearshore resources</u></p> <ul style="list-style-type: none"> • Public Education and Involvement <i>Activities intended to increase public awareness of nearshore processes and threats, build support for and volunteer participation in protection and restoration efforts, and promote stewardship and responsible use of nearshore resources.</i>
<p>Restore</p> <p>Role: Exert long-lasting restorative effects on ecosystem</p>	<p><u>Remove debris and unneeded structures and protect the nearshore from harmful pollutants or use</u></p> <ul style="list-style-type: none"> • Contaminant Removal and Remediation <i>Removal or remediation of unnatural or natural substances (e.g., heavy metals, organic</i>

<p>processes, remove or prevent physical and chemical disturbances</p>	<p><i>compounds) harmful to the integrity or resilience of the nearshore. Pollution control, which is a source control measure, is a different measure.</i></p> <ul style="list-style-type: none"> • Debris Removal <i>The removal of solid waste (including wood waste) debris, and derelict or otherwise abandoned items from the nearshore.</i> • Pollution Control <i>Prevention, interception, collection, and/or treatment actions designed to prevent entry of pollutants into the nearshore ecosystem.</i> • Physical exclusion <i>Installation of exclusionary devices (fences, barriers, mooring buoys, or other devices) to</i> <i>direct or exclude human and/or animal use of a restoration site.</i> <p><u>Remove dikes, culverts, and fill to allow water to flow naturally to the nearshore</u></p> <ul style="list-style-type: none"> • Berm or Dike Removal or Modification <i>Removal or modification of berms, dikes and other structures to restore tidal inundation to a site that was historically connected to tidal waters. Includes dike/berm breaching and complete dike/berm removal.</i> • Groin Removal or Modification <i>Removal or modification of groins and similar nearshore structures built on bluff-backed beaches or barrier beaches in Puget Sound.</i> • Hydraulic Modification <i>Modification of hydraulic conditions when existing conditions are not conducive to sustaining a more comprehensive restoration project. Hydraulic modification involves removing or modifying culverts and tide gates or creating other engineered openings in dikes, road fills, and causeways to influence salt marsh and lagoon habitat. This measure is used in managed tidal systems (as opposed to naturally maintained systems).</i> • Channel Rehabilitation or Creation <i>Restoration or creation of channels in a restored tidal wetland to change water flow, provide habitat, and improve ecosystem function.</i> • Topography Restoration <i>Dredging, excavation and /or filling to remove or add layers of surface material so that beaches, banks, tidal wetlands, or mudflats can be created.</i> <p><u>Remove bulkheads from the nearshore</u></p> <ul style="list-style-type: none"> • Armor Removal or Modification – <i>Removal, modification, or relocation of coastal erosion protection structures such as rock revetments, bulkheads, and concrete walls on bluff-backed beaches, barrier beaches, and other shorelines.</i> <ul style="list-style-type: none"> ➤ Avoid and minimize shoreline armoring projects, and require proposed bulkhead rebuild projects to have a geotechnical assessment, reviewed by a qualified third party, to evaluate problems and analyze potential solutions,
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- including the use of alternative designs (e.g., soft-shore approaches) as opposed to in-kind replacement
- Avoid placement of shoreline armor or other structures near the beach, especially waterward of OHWM, that may result in downcutting of the beach, substrate change, or alteration of shoreline physical processes

Remove or modify piers and docks

- **Overwater Structure Removal or Modification**

Removal or modification of overwater structures such as piers, floats and docks to reduce shading and restore wave regimes.

- Avoid and minimize new over-water structures in areas inventoried as forage fish spawning
- Require survey of intertidal and shallow subtidal areas prior to permitting any structures or activities that could impact existing beds
- Show preference for the use of mooring buoys and shared facilities rather than individual private docks and piers
- Minimize and limit over-water structures and require structure designs that improve light conditions (minimize shading) under these structures through design specifications (minimize width, use grating, orient north-south to minimize shading resulting from new and rebuilt structures) and minimize disturbance of the substrate including from prop wash
- Minimize displacement of beach area by pilings or other structures by minimizing the footprint and number of pilings associated with overwater structures. Where such structures are unavoidably necessary, prohibit the use of treated wood in favor of concrete, steel, or recycled plastic
- Eliminate grounding of boats and structures
- Dock and piers should not be located on shallowly sloped beach areas because of the large footprint required to obtain adequate water depths for launching
- Avoid placing docks or piers in tidal flats because these locations require very long structures
- Place structures to perpendicularly span the shoreline spawning habitat zone

Return native plants to the nearshore

- **Revegetation**

Site preparation, planting, and maintenance to manipulate soils and vascular plant populations to supplement the natural development of native vegetation.

- Require site surveys of existing conditions including vegetation function analysis

	<ul style="list-style-type: none"> ➤ Promote retaining or establishing marine riparian vegetation including large trees by requiring a vegetation conservation plan for activities impacting marine riparian vegetation ➤ Avoid and minimize area disturbed during nearshore construction activities by establishing standards for equipment use within riparian areas, and require replacement of native riparian or aquatic vegetation that is directly or indirectly lost through shoreline activities with native species, including long term maintenance provisions ➤ Require development of vegetation conservation plans, including replanting and maintenance standards focused on native species, for any project that impacts marine riparian vegetation ➤ Require enhancement and mitigation of marine riparian areas for expansions or redevelopment of developed areas <p><u>Restore important nearshore areas for plants, animals, fish, and people</u></p> <ul style="list-style-type: none"> • Property acquisition and Conservation <i>Transfer of land ownership or development rights to a conservation interest to protect and conserve resources, enable restoration or increase restoration effectiveness.</i> ➤ Promote off-site mitigation to address cumulative impacts using the restoration component of the shoreline master program
<p>Enhance</p> <p>Role: Create/promote structural elements (habitats) and/or mimic natural processes)</p>	<p><u>Add sand and gravel to rebuild eroded beaches</u></p> <ul style="list-style-type: none"> • Beach Nourishment <i>The intentional placement of sand and/or gravel on the upper portion of a beach where historic supplies have been eliminated or reduced.</i> • Substrate Modification <i>The placement of materials to facilitate establishment of desired habitat features and improve ecosystem functions, structures, or processes.</i> <p><u>Create habitat for native plants and animals</u></p> <ul style="list-style-type: none"> • Large Wood Placement <i>Installation of large, unmilled wood (large tree trunks with root wads, sometimes referred to as large woody debris) within the backshore or otherwise in contact with water to increase aquatic productivity and habitat complexity.</i> • Species Habitat Enhancement <i>Installation or creation of habitat features (sometimes specific structures) for the benefit of native species in the nearshore.</i> <ul style="list-style-type: none"> ➤ If tree removal is unavoidable, leave felled trees or create snags for wildlife habitat ➤ Require mitigation for lost habitat elements such as trees, logs, and boulders • Channel Rehabilitation or Creation

	<p><i>Restoration or creation of channels in a restored tidal wetland to change water flow, provide habitat, and improve ecosystem function.</i></p> <p><u>Remove nonnative plants and animals</u></p> <ul style="list-style-type: none"> • Invasive Species Control <i>Eradication and control of nonnative invasive plants or animals occupying a restoration site and control measures to prevent introduction or establishment of such species after construction is complete.</i> <p><u>Return native plants and animals to the nearshore</u></p> <ul style="list-style-type: none"> • Reintroduction of Native Animals <i>Reestablishment of native animal species at a site where they existed or as replacement for lost habitat elsewhere.</i> • Revegetation <i>Site preparation, planting, and maintenance to manipulate soils and vascular plant populations to supplement the natural development of native vegetation.</i> <ul style="list-style-type: none"> ➤ Require site surveys of existing conditions including vegetation function analysis ➤ Promote retaining or establishing marine riparian vegetation including large trees by requiring a vegetation conservation plan for activities impacting marine riparian vegetation ➤ Avoid and minimize area disturbed during nearshore construction activities by establishing standards for equipment use within riparian areas, and require replacement of native riparian or aquatic vegetation that is directly or indirectly lost through shoreline activities with native species, including long term maintenance provisions ➤ Require development of vegetation conservation plans, including replanting and maintenance standards focused on native species, for any project that impacts marine riparian vegetation ➤ Require enhancement and mitigation of marine riparian areas for expansions or redevelopment of developed areas
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TABLE C.4-2. GENERAL MANAGEMENT RECOMMENDATIONS AND OPTIONS FOR FRESHWATER SHORELINE PROJECTS

General Recommendations	Management Options
<p>Protection (High water process importance, low impairment areas)</p> <ul style="list-style-type: none"> • Extra care given to protecting /maintaining watershed processes 	<p>*The suggested management options listed below may also work in the other "Recommendations" categories.</p> <ul style="list-style-type: none"> • Protect natural streambank conditions and functions, including vegetative cover, natural input of large woody debris and gravels by adopting riparian buffers (and associated building setbacks) and prohibiting bank hardening • Allow no new or expanded channel stabilization projects or other river control structures in the channel migration zone, unless protecting essential facilities • Retain large woody debris in streams and maintain long-term recruitment of large woody debris from riparian zones • Prohibit removal, relocation, or modification of large woody debris in aquatic habitats and adjacent banks except when posing an immediate threat to public safety or critical facilities • Restrict livestock access to streams and rivers to prevent streambank and vegetation degradation, channel widening and heating • Prohibit new development in the 100-year floodplain • Continued protection of critical areas within shoreline jurisdiction • Maintain the natural sources, storage, delivery, and routing of surface water, groundwater, sediments, and nutrients • Protect and promote healthy riparian areas, groundwater recharge areas, and natural storage areas • Minimize nutrient and pathogen inputs to freshwater aquatic areas from animal/human waste and fertilizer • Maintain septic systems • Increase opportunities for land exchanges that retain or restore floodplain and delta habitats • Maintain native riparian vegetation • Prohibit new overwater structures • Prohibit shoreline armoring
<p>Conservation (low water process importance, low impairment areas)</p> <ul style="list-style-type: none"> • Protect /maintain watershed processes 	<ul style="list-style-type: none"> • Continued protection of critical areas within shoreline jurisdiction • Protect natural streambank conditions and functions, including vegetative cover, natural input of large woody debris and gravels by adopting riparian buffers (and associated building setbacks) and avoiding bank hardening • Allow no new or expanded channel stabilization projects or other river control structures in the channel migration zone, unless protecting essential facilities or increasing habitat through bioengineered restoration • Discourage new dwelling units or expansion of existing structures within the CMZ • Limit development and shoreline modifications that would result in interference with the process of channel migration that may result

	<p>in a net loss of ecological functions associated with the rivers and streams</p> <ul style="list-style-type: none"> • Retain large woody debris in streams and maintain long-term recruitment of large woody debris from riparian zones • Prohibit removal, relocation, or modification of large woody debris in aquatic habitats and adjacent banks except when posing an immediate threat to public safety or critical facilities • Minimize nutrient and pathogen inputs to freshwater aquatic areas from animal/human waste and fertilizer • Maintain septic systems • Restrict livestock access to streams and rivers to prevent streambank and vegetation degradation, channel widening and heating • Use the Low Impact Development (LID) approach and techniques to better manage stormwater for new development, redevelopment and retrofit projects. This includes: limit land clearing, retain and, where necessary, restore native vegetation and soils, minimize site disturbance and development footprints, limit impervious surfaces through use of permeable pavement or other techniques, create graded swales and rain gardens to disperse and infiltrate stormwater runoff on site, and utilize rainwater catchment for landscaping irrigation • Prohibit new development in the 100-year floodplain • Prohibit new dikes, levees, tide-gates, floodgates, pump stations, culverts, dams, water diversions, and other alterations to the floodplain, excepting habitat improvements such as a wider culvert for fish passage • Avoid new road construction at stream and wetland crossings • Maintain vegetation, limit disturbed areas, and control drainage on steep slopes. • Identify opportunities for and encourage restoration of side channel habitat for salmonids as mitigation for modifying existing floodplain structures where feasible • Increase opportunities for land exchanges that retain or restore floodplain and delta habitats • Maintain or restore the natural sources, storage, delivery, and routing of surface water, groundwater, sediments, and nutrients • Protect and promote healthy riparian areas, groundwater recharge areas, and natural storage areas • Minimize and control runoff and soil erosion • Maintain native riparian vegetation and encourage the restoration of riparian vegetation. When removal cannot be avoided, require mitigation that addresses cumulative impacts and requires replanting • Remove or modify overwater structures such as piers and docks • Show preference for the use of mooring buoys and shared facilities rather than individual private docks and piers • Minimize and limit over-water structures and require structure designs that improve light conditions (minimize shading) under these structures through design specifications (minimize width, use grating, orient north-south to minimize shading resulting from new
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	<p>and rebuilt structures) and minimize disturbance of the substrate including from prop wash</p> <ul style="list-style-type: none"> • Minimize displacement of beach area by pilings or other structures by minimizing the footprint and number of pilings associated with overwater structures. Where such structures are unavoidably necessary, prohibit the use of treated wood in favor of concrete, steel, or recycled plastic • Avoid and minimize shoreline armoring projects, and require proposed bulkhead rebuild projects to have a geotechnical assessment, reviewed by a qualified third party, to evaluate problems and analyze potential solutions, including the use of alternative designs (e.g., soft-shore approaches) as opposed to in-kind replacement. For retrofitting projects, bulkheads should be completely eliminated when possible or relocated shoreward of OHWM, and shorelines should be restored with emergent and riparian plant species • Avoid placement of shoreline armor or other structures near the beach, especially waterward of OHWM, that may result in downcutting of the shoreline, substrate change, or alteration of shoreline physical processes •
<p>Restoration (High water process importance, higher impairment areas)</p> <ul style="list-style-type: none"> • Restoration of watershed processes should be high priority 	<ul style="list-style-type: none"> • Limit impervious areas • Repair faulty septic systems • Minimize nutrient and pathogen inputs to freshwater aquatic areas from animal/human waste and fertilizer • Coordinate restoration plans with salmonid recovery and watershed management plans, water clean-up plans for TMDLs, stormwater management programs, and with stormwater basin plans where they have been developed • Restore the natural sources, storage, delivery, and routing of surface water, groundwater, sediments, and nutrients • Restore natural streambank conditions and functions, including vegetative cover, natural input of large woody debris and gravels by adopting riparian buffers (and associated building setbacks) and avoiding bank hardening • Plan for and facilitate removal of artificial restrictions to natural channel migration, restoration of off channel hydrological connections and return river processes to a more natural state where feasible and appropriate • Restore natural channel morphology • Increase opportunities for land exchanges that retain or restore floodplain and delta habitats • Encourage the removal or relocation of structures within the channel migration zone to facilitate the natural recovery of channel migration processes • Remove human-made barriers to salmonid migration, such as blocking culverts and tide gates • Identify opportunities for and encourage restoration of side channel habitat for salmonids as mitigation for modifying existing floodplain structures where feasible • Support the removal and control of noxious weeds

	<ul style="list-style-type: none"> • Maintain native riparian vegetation and encourage the restoration of degraded riparian vegetation. When removal cannot be avoided, require mitigation that addresses cumulative impacts and requires replanting. • Close unnecessary roads • Minimize and control runoff and soil erosion • Use the Low Impact Development (LID) approach and techniques to better manage stormwater for new development, redevelopment and retrofit projects. This includes: limit land clearing, retain and, where necessary, restore native vegetation and soils, minimize site disturbance and development footprints, limit impervious surfaces through use of permeable pavement or other techniques, create graded swales and rain gardens to disperse and infiltrate stormwater runoff on site, and utilize rainwater catchment for landscaping irrigation
<p>Development (Low water process importance, higher impairment areas)</p> <ul style="list-style-type: none"> • Less impact to watershed processes if development occurs 	<ul style="list-style-type: none"> • Use the Low Impact Development (LID) approach and techniques to better manage stormwater for new development, redevelopment and retrofit projects. This includes: limit land clearing, retain and, where necessary, restore native vegetation and soils, minimize site disturbance and development footprints, limit impervious surfaces through use of permeable pavement or other techniques, create graded swales and rain gardens to disperse and infiltrate stormwater runoff on site, and utilize rainwater catchment for landscaping irrigation.

C. Voluntary Restoration on Private Lands

Most of the shoreline of Thurston County is owned by private individuals or organizations. Often private property owners can serve as the best stewards for their land. Public outreach and education on voluntary restoration options will be very important to the success of this Plan. As stated above, this Restoration Plan is a non-regulatory and voluntary program which all willing partners may draw from to improve habitat and existing conditions along the shoreline. Private property owners may also use the resources listed in Subsections C.4.A.1 and C.4.A.2 to identify what types of projects would likely be most successful and beneficial for their stretch of shoreline.

Voluntary actions may include:

Working with public agencies, private organizations or citizen groups to restore or enhance habitat in a public park or open space

Taking actions to improve habitat on ones' own property

It is important to note that these actions may range from very small in scale (replacing invasive blackberries with native shrubs) to the large scale which would require permits and engineering (replacement of a culvert on a private road). Many of the partners and funding sources listed in Section C.5 are willing to work with private property owners on shoreline habitat restoration projects. Below are

some actions and additional links to resources to help the private property owner with voluntary restoration on private lands.

1. **Actions:**
 - Remove unused or derelict structures, including sheds, floats, boat houses, and boat launches.
 - Use pervious pavement or pavers for new or remodeled patios, walkways or driveways; Implement other Low Impact Development retrofits, including the installation of a rain garden;
 - Remodel docks and piers consistent with Sections 19.600.125 (Boating Facilities) and 19.600.160 (Mooring Structures and Activities) of this Master Program;
 - Removing shoreline armoring or replacing hard shoreline armoring with soft-shore alternative, if feasible;
 - Remove invasive plants. Common on Thurston County's shorelines are: Himalayan blackberry, ivy, knotweed, butterfly bush, and scotch broom;
 - Plant appropriate native vegetation. This will vary depending on the type of shore;
 - Placing habitat enhancements for priority species, for example nests for purple martins;
 - Participate in one of the citizen organizations listed in Section C.5 (Existing Programs and Funding Sources) of this Plan;
 - Place a portion of the property in a conservation easement or consider future donation of the property to a land trust;
 - Contact the Lead Entity, local Fisheries Enhancement Group, or Conservation District for grant opportunities to pay for restoration projects on private property.
2. **Additional Resources:**
 - Incentives to help Meet Priority Shoreline Restoration and Protection Objectives, 2014.*
 - Washington Department of Ecology- [Puget Sound Shorelines](#), [Property Owner Guides](#), [Green Shorelines](#)
 - WSU Thurston County Extension- [Native plant](#) and [noxious weed advice](#)

D. Programmatic Restoration and Protection Actions

Certain restoration actions should be broadly and comprehensively implemented on a programmatic basis to help achieve restoration goals. The following programmatic actions are recommended for shorelines within Thurston County as resources and funding permits. The County department(s) or other entities that will take the lead on these actions will be determined in the future, unless otherwise specified. The Department of Community Planning and Economic Development will continue to coordinate with other County departments and active partners on restoration and programmatic activities. The funding mechanisms for these actions are mostly existing, but some have not yet been identified.

1. **Education and Incentives**
 - Marine and watershed education in schools
 - Stewardship - WSU Beach Watchers and Stream Stewards
 - Workshops for professionals (realtors and engineers)
 - Natural yard care outreach and materials - WSU Master Gardeners
 - Farm Plans - Thurston Conservation District
 - Septic Repair/Replacement Loan Program(s)
2. **Planning**
 - Stream water typing for South Sound to assist in accurate management
 - Adopt Alternative Futures model to prioritize and select restoration and protection sites; use model to monitor how well priority conservation areas have been protected and if development densities are appropriate in priority development areas

- Complete Regional Shoreline Restoration grant (federal Environmental Protection Agency (EPA)) to identify sediment source beaches with the highest priority and feasibility for removal of hard shoreline armoring and implement removal or replacement with soft-shore alternatives
 - Cooperatively review criteria and process of road and stormwater project selection process to better align with local and regional ecosystem protection and restoration priorities.
 - Continue coordination with cities, tribes and state agencies on permit process improvements and implement an adaptive management strategy
3. Infrastructure
- Provide the Washington Department of Natural Resources with known locations of derelict gear, structures and pilings for removal
 - Surface and Stormwater Management (SSWM) Program elements: NPDES permit, LID retrofits, culvert replacements
 - Develop rain garden program that allows appropriate engineering review; identify barriers (current program may not get reviewed by the Department's Development Engineering Division. Rain gardens installed through Thurston Conservation District program for the purposes of mitigation under the Program may not have had proper review and may not be accepted)
 - Purple pipe prioritization and linking with environmental applications (wetland or stream enhancement, aquifer recharge)
 - Identify public infrastructure and major private structures at risk due to sea level rise/ climate change impacts

C.5 Existing Programs and Funding Sources

There are many existing government and private NGO programs and funding sources which implement the Restoration and Enhancement goals and policies of this Shoreline Master Program update. Most restoration efforts are implemented because citizens, tribes, non-government entities and local, state and federal resource agencies collaborate to solve problems and achieve shared goals. Continued collaboration at all levels is needed if the goals of this plan are to be achieved. This section outlines both government (including tribes) and NGO programs that may be potential partners in restoration, as well as potential funding sources, again for both government and NGOs. These partners and funding sources will likely change over time.

A. Government Programs

Table C.5-1. Existing and Potential Restoration Partners and Roles

Organization and Program	Mission and Scope	Role in Future Restoration Efforts	Examples of Past and On-Going Restoration Projects
Thurston Co. Dept. of Community Planning & Economic Development	To enable the development of quality, affordable, structurally safe and environmentally sound communities. Environmental Programs Division combines permit review with long range, environmental planning and restoration grant administration.	Coordination and planning Grant administration and implementation for planning and on-the-ground restoration and protection projects	Floodplain projects, buyout programs
Thurston Co. Dept. of Community Planning &	Multi-agency effort to protect water quality and reduce flooding	Stormwater studies Floodplain restoration Project implementation	Culvert replacement for stormwater control / fish passage

Organization and Program	Mission and Scope	Role in Future Restoration Efforts	Examples of Past and On-Going Restoration Projects
Economic Development Stormwater Utility	through implementation of a variety of fee-based programs Phase II Municipal Stormwater Permit (NPDES) Stormwater Improvement Plan (SIP)	Stormwater retrofits	Stormwater education programs (Mutt Mitts, car wash alternatives, etc.) Basin Planning and watershed characterizations
Thurston Co. Public Works-	To provide the citizens of Thurston County with quality service in the planning, maintenance and operations of public works facilities Repair/replace fish passage barrier and water-restricting culverts Transportation Improvement Plan (TIP)	LID retrofits Fish passage barrier removal	Partners in fish passage barrier projects LID retrofits TCPW has completed drafting prioritized lists of culverts, road segments and bridges that should be elevated above the 100-year floodplain. Upgrade of these structures will occur on a prioritized basis as funds become available.
Thurston County Emergency Management Department	<i>To save lives, prevent injury, and protect property and the environment by taking reasonable and affordable measures to mitigate, prepare for, respond to and recover from disasters</i>	Comprehensive Emergency Management Plan Hazards Identification and Vulnerability Analysis Natural Hazards Mitigation Plan Flood Hazard Management Plan Geologic Risks / Landslides	ongoing work to develop updated flood risk maps of the marine coastal areas, the Deschutes Watershed and the lower Chehalis Watershed Thurston County has conducted floodplain analysis for all Puget Sound drainages including Henderson Inlet, Deschutes Watershed, Totten/Eld Inlets, and the Thurston County side of the Nisqually River. This information will be used to help identify high value restoration and flood storage project opportunities.
Thurston Co. Public Works- Solid Waste Division	To plan, develop, and implement solid waste management programs which conserve natural resources and minimize impacts to land, water, air and climate. .strive to provide environmentally sound services in the most cost-effective manner possible.	Continue and expand Clean Thurston Program Expand yard/food waste disposal program	Solid Waste Management Plan Hazardous waste disposal program Education and outreach, including yard waste on the shoreline
Thurston Public Health District	Striving to make Thurston County the healthiest place on the planet to live, work and play Environmental Health Division: identifies and prioritizes clean-up of surface water (marine and fresh) PIC Program Review of appropriate OSS placement Stream, Lake, and Marine (shellfish) health monitoring and reports	Continue watershed restoration/ Pollution Identification and Correction (PIC) projects Education and outreach on shoreline for onsite sewage system (OSS)	Henderson Inlet Restoration Project Nisqually and Henderson Inlet Shellfish Protection District- partner
Thurston Conservation District	Farm Plans (BMPs) Voluntary Stewardship Program (VSP) Rain Garden Program Backyard Habitat Grants (Stream and Shoreline restoration funds for communities and individuals) Lead Entity for Salmon Recovery (WA State Recreation and Conservation Office (RCO))	Continue implementation of VSP and Farm Conservation Plans and assistance with rain gardens Work with restoration partners to prioritize watersheds/shoreline reaches to receive Backyard Habitat Grant	Develop, plan and cost share for Farm Conservation Plans Technical assistance with rain gardens Invasive species removal; restoration of stream channels Backyard Habitat Grant Implementation

Organization and Program	Mission and Scope	Role in Future Restoration Efforts	Examples of Past and On-Going Restoration Projects
	3 yr. Work Plan for Salmon Recovery	Continued coordination of salmon and ecosystem recovery	
Thurston Co. Parks and Recreation Department	Providing quality-of-life enhancing opportunities through the management of natural areas and specialized facilities, fostering community stewardship, and offering an outstanding service-oriented environment	Develop better coordination among CPED, Parks and land trust organizations to facilitate the planning, purchase and stewardship of lands for conservation Continue to support the restoration and protection priorities on TC Parks lands	Partner on conservation acquisitions Provided support for restoration projects on public lands, including demonstration sites for LID and bulkhead removal
Washington State Parks	To be premier destinations of uncommon quality, including state and regionally significant natural, cultural, historical and recreational resources that are outstanding for the experience, health, enjoyment and learning of all people.	Provide public lands as demonstration sites for LID, bulkhead removal or alternative restoration or mitigation techniques for overwater structures Implement restoration and conservation measures as outlined in official Park Plans	Restoration demonstration projects on public lands
WSU Thurston Extension	<u>Beach Watchers</u> - work to <i>improve, maintain and protect a thriving Puget Sound ecosystem through education, community outreach, stewardship, and research</i> <u>Stream Stewards</u> - training volunteers to work on upland and stream riparian restoration projects <u>Noxious Weed Control Program</u> - to educate county residents, property owners and managers to be responsible stewards of the land and resources of Thurston County by protecting and preserving all lands and natural resources of the county from the degrading impact of invasive noxious weeds. <u>Forest Stewardship</u> - an educational program for private non-industrial forest land owners. Property owners with 5 acres or more of forested property are eligible to enroll their property with the Washington State Department of Natural Resources Forest Stewardship Program.	Partner with other entities working on restoration projects to provide public education and guidance Provide an educated volunteer base for restoration project managers to draw from Provide technical and professional expertise to entities conducting restoration projects for watersheds or drift cells Utilize the forest stewardship program to approach priority forested shoreline reaches	Beach Watchers-over 6,000 hrs. of volunteer service each year for shoreline education, outreach and research Noxious Weed Program- prevention, education and technical assistance; grant implementation for Knotweed Removal Stream Stewards- provided educational workshop, WaterCourses; Salmon Stewards Forest Stewardship- Planning courses
University of Washington Sea Grant	Research and Education	Assist with/ implement shoreline landowner and professional workshops and training	Interpretive signs Workshops for the public and professionals Aquatic Invasive Species outreach and research Geoduck Aquaculture research
Alliance for a Healthy South Sound (AHSS)	To support the coordinated and collaborative decision-making aimed at restoring and protecting the ecological and socio-	The Alliance For A Healthy South Sound was created to focus on sustainability – including environmental,	Continue to implement Puget Sound Partnership Action Agenda and South Sound Strategy

Organization and Program	Mission and Scope	Role in Future Restoration Efforts	Examples of Past and On-Going Restoration Projects
	economic health of South Puget Sound.	economic and community health, implementing a South Puget Sound workplan. The South Puget Sound workplan will identify organizational goals and measurable targets. The South Puget Sound Action Agenda profile produced by the Puget Sound Partnership is one tool that strives towards these objectives and, in addition, other tools may be developed and implemented by the organization.	http://www.healthysouthsound.org/south-sound-strategy/
Washington Department of Fish and Wildlife (WDFW)	To preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities.	Participate in coordination of stream-lining for restoration permitting Project sponsor for restoration projects Assist local governments in development of local Priority Species and Habitats	Maintains State Priority Habitats and Species List and Management Recommendations Provides technical assistance to each Lead Entity Project Planning and Assistance through the Aquatic Habitat Guidelines HPA coordination Partner in fish passage barrier and other restoration projects
Washington Department of Ecology (Ecology)-Shorelands and Environmental Assistance Program	Helps communities manage shorelands and wetlands Primary focus is on state and local responsibilities for administering Washington state and federally-delegated laws.	Continued training for local government: support training program for realtors, geotechnical engineers for alternative armoring techniques, etc. Support local watershed planning and restoration prioritization efforts Support permit monitoring and streamlining efforts for restoration	Planning grants: Coastal Wetland grants Washington Conservation Corps Coastal Training Program: education and training for planners Public Education: Property owner guides, Green Shorelines, Puget Sound Shorelines (website)
Chehalis Tribe	Effectively manage the physical and cultural qualities of the air, water, earth, plants and wildlife, both on and off reservation, for the people of the Chehalis Tribes.		Habitat restoration, salmon enhancement, water resources
Nisqually Tribe	The Nisqually people have traditionally lived off the land and rivers, sustaining our civilization through the respect and protection of our natural ecosystem. The Nisqually Department of Natural Resources maintains these pristine native lands and waterways important to the survival of fish, plants and wildlife, and in turn our cultural heritage.		Habitat restoration, Salmon enhancement, shellfish management
Squaxin Island Tribe	To maintain a leadership role in perpetuating natural resources including water quality, fish, shellfish, wildlife, timber and	The Squaxin Island Tribe is a historic steward and a conscientious co-manager and protector of natural resources,	Habitat restoration, net pen wild-stock coho enhancement

Organization and Program	Mission and Scope	Role in Future Restoration Efforts	Examples of Past and On-Going Restoration Projects
	plants, while promoting, preserving, protecting and restoring habitat. Mother Earth and her resources are the cultural foundation for the people of Squaxin Island.	working in cooperation with numerous federal, state and county government agencies and organizations.	

Table C.5-2. Government Funding Sources

Agency	Grant or Fee Name
Washington State Recreation and Conservation Office / WDFW	Estuary and Salmon Restoration Program (ESRP) Grants
Washington State Recreation and Conservation Office	Salmon Recovery Funding Board Grants
	Family Forest Fish Passage Program (FFFPP)
	Land and Water Conservation Fund (LWCF)
	Washington Wildlife Recreation Program
WA Dept. of Fish and Wildlife	Aquatic Lands Enhancement Account (ALEA) Grants
	Landowner Incentive Program
Thurston Conservation District/SSWM	Backyard Habitat Grants
	SSWM Fee
Washington Department of Ecology	Coastal Protection Fund / Terry Husseman Grants
	Community Litter Clean-up Program
	Coastal Wetland Grants
Nisqually & Henderson Inlet Shellfish Protection Districts	Shellfish Protection District Fee
Thurston County Public Works- Roads	Property Tax, and State Gas Tax
Environmental Protection Agency	Puget Sound Watershed Management Assistance Program
	Watershed Management Assistance Program Grants
	Targeted Watershed Grants
Various	Compensatory Mitigation or In-Lieu Fee (ILF) Program(s)

B. Private and Non-Government Organization Programs

Table C.5-3. Existing and Potential Restoration Partners and Roles

Organization and Program	Mission and Scope	Role in Future Restoration Efforts	Examples of Restoration Projects
Capitol Land Trust	Our goal is to ensure that our region is a place with clean water to drink and clean air to breathe; a place with healthy populations of native fish and wildlife; a place where the economy is robust, sustainable, and stronger because people want to live and work here; a place where the natural environment inspires curiosity and hope for the people who live here;. Conserve pristine shorelines, critical salmon streams, evergreen forests, and wildlife-rich wetlands throughout Thurston, Mason, and Pierce counties, Washington	Work with and educate communities in priority conservation and restoration watersheds Restoration and protection sponsor Partner in management of receiving sites for ILF or transfer of development right (TDR) programs	Conserved 71 properties Over 6000 acres protected with conservation easements Nearly 14 miles of Puget Sound shoreline protected Streams and Estuaries Initiative
The Mountaineers	Outdoor club dedicated to the principles of preserving, protecting and enjoying the outdoors.	Create an outdoor environmental learning center	Salmon Safari (youth environmental education program)

Organization and Program	Mission and Scope	Role in Future Restoration Efforts	Examples of Restoration Projects
		(Rhododendron Learning Center) Continue acquisition and preservation of the Chico Watershed	
South Sound Salmon Enhancement Group	Non-profit organization that works with communities to maximize self-sustaining salmon populations. In Pierce, Mason and Thurston Counties, they work cooperatively with private landowners, agencies, tribes and others to identify, design and implement projects that improve salmon habitat.	Project sponsor for on-the-ground restoration projects or project design within the South Sound Action Area Partner in cooperative effort to stream-line restoration permitting and project monitoring efforts	JARPA sponsorships (permit streamlining assistance for qualified projects) Smolt traps Bank stabilization; in-stream habitat enhancement; floodplain reconnection; design
Wild Fish Conservancy-Northwest	Through science, education, and advocacy, Wild Fish Conservancy promotes technically and socially responsible habitat, fisheries, and hatchery management to better sustain the region's wild-fish heritage.	Continue water-type assessments for priority watersheds; Begin water-type assessments for Hood Canal Potential partner for on-the-ground restoration projects	West Sound Water-Type Assessments Floodplain and Estuary Restorations Diversity and distribution studies Fish passage projects
Washington State Parks Foundation	A private, nonprofit organization to gather financial support for state parks improvement projects and programs Enriches our state parks by improving recreational and educational opportunities and protecting natural, cultural and historic resources.	Support local community efforts to improve or restore State Parks in Thurston County	Provides funding for habitat restoration and protection projects, including revegetation, interpretive signs, and habitat restoration
Local Schools (K-12)	To provide education to youth	Wild-stock salmon supplementation projects Continue efforts on shoreline ecosystem education, volunteer clean-ups and advocacy	Various student clubs and organizations supply ideas and volunteer hours towards restoration planting and other efforts Stream Adoption
Various homeowners associations	Varies; Neighborhoods with specific guidelines; a corporation formed by a real-estate developer and transferred to the homebuyers	Discuss and brainstorm potential community restoration projects at meetings Sponsor a project or partner with a local agency on a project (armoring removal, estuary restoration, etc.)	Have sponsored Mutt Mitts, community restoration grants, noxious weed removal, educational public beach walks, etc.

Table C.5-4. Private and NGO Funding Sources

Agency	Grant Name or Type
Bullitt Foundation	Bullitt Foundation Environmental Grants: Aquatic Ecosystems
The Burning Foundation	Grants to protect threatened rivers and forests, native fish populations, open space
Charles A. and Anne Morrow Lindbergh Foundation	Grants for conservation of natural resources
The Field's Pond Foundation	Grants for community-based conservation organizations that serve to increase environmental awareness by involving local residents in conservation issues
FishAmerica Foundation	Grant for projects designed to enhance fish populations such as habitat enhancement and water quality improvement projects

Agency	Grant Name or Type
The Konsgaard - Goldman Foundation	Grants for habitat protection and restoration formation of watershed councils, citizen involvement, public education and sustainable development
Mountaineers Foundation	Grant to support: (1) studies that will yield new data aimed at protecting Northwest wilderness and wildlife, (2) biologic, economic, legal, or policy studies, and (3) direct educational programs and materials related to environmental preservation. They also fund selected capital improvement projects (e.g., restoration and assistance in purchasing equipment/materials)
National Fish and Wildlife Foundation	Provides funding on a competitive basis to projects that sustain, restore and enhance the Nation's fish, wildlife, plants and their habitats through <i>Keystone Initiative Grants</i> and other <i>Special Grant Programs</i> (including the <i>Community Salmon Fund</i> and the <i>Pioneers in Conservation grant</i>)
The Northwest Fund for the Environment	Grants for environmental purposes, including grants for stewardship programs, action plans, strategic litigation, and capacity building for conservation organizations. It also gives grants for protection of wildlife habitats, water quality, sustainable forestry, and shoreline and wetland environments
Russell Foundation Grants	Focus on Puget Sound environmental education and green business practices
Wildlife Forever Challenge Grants	Targeted for habitat restoration and acquisition, research and management, and educational projects. Special emphasis is placed upon grassroots programs that involve local conservation, sportsmen's or outdoor recreation groups
Washington State Parks Foundation	Provides Small and Simple Grants, Individual Grants, and Program Support grants for restoration and education at Washington's State Parks

C.6 Implementation and Monitoring (Project and Program Effectiveness)

Based on the priorities identified in Section C.4.B of this Shoreline Restoration Plan, the following represent a best-estimate of near-term benchmarks by restoration indicator.

Table C.6-1. Implementation Timeline

Indicator	Near-Term Benchmarks (Up to 5 Yrs.)	Adaptive Management Options
Culverts Removed or Replaced	8	Larger projects with greatest habitat value or on Shorelines of the State should be considered when deciding if the "benchmark" was met
Regional Stormwater Retrofits / Drainage Improvements	6	
Riparian Area Protected (not including required buffers)	45 acres	Includes public and private projects, excluding any riparian protection associated with mitigation used to offset permitted development
Riparian Area Restored, including reconnected floodplain	45 acres	Included public and private projects, excluding any riparian restoration associated with mitigation used to offset permitted development
Shoreline armoring removed	1,000 linear ft.	Or amount needed to meet "no net loss" for bulkhead installation, whichever is greater
303(d) list removals	2	Benchmark as net-removals (3 removals, 1 added= 2 net removals)

Indicator	Near-Term Benchmarks (Up to 5 Yrs.)	Adaptive Management Options
Shellfish areas upgraded	2 net upgrades (Based on Washington Dept. of Health goals)	Upgrade from "threatened" list included; benchmark as net-upgrades (4 upgrades, 2 downgrades= 2 net up-grades); upgrades for larger natural shellfish beds should be considered when deciding if the "benchmark" was met
Pillings / Creosote Logs Removed	100 piles (Based on Washington Dept. of Natural Resources Creosote Removal Program numbers for Thurston 2004-2009)	Depends on coordination with the Creosote Removal Program, development of local program with similar functions, or private actions which remove a number beyond required mitigation as part of a permitted development
Variances Issued	N/A	Indicator only. Number and type issued to be monitored and regulations adapted to address at next update

C.7 Program and Funding Gaps

A. Obstacles and Challenges

1. **Climate Change and Sea Level Rise.** The net-sea level rise projections for South Puget Sound by-2100 range from 32"-68" (National Research Council 2012, Sea-level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future) . Such changes, coupled with more intense weather events and storm surges, are expected to bring about several challenges, including: loss of beach and marsh habitat, loss of beach access, and threats to existing structures and uses (Climate Impacts Group, 2009. The Washington Climate Change Impacts Assessment, University of Washington). As the County develops or has access to such threat analysis, steps should be taken to prioritize restoration efforts to mitigate for sea level rise impacts on ecological functions, both amongst similar projects and this Restoration Plan as a whole.
2. **Permit Process for Nearshore Restoration.** Currently, there is an expedited permitting process for watershed restoration activity occurring in streams and lakes. A similar expedited permit process to include restoration activity for the nearshore needs to be developed as an incentive to encourage restoration, but also to ease the work load for permit reviewers.
3. **Liability.** A common concern is that of liability. If a landowner agrees to a public-private cooperative restoration project or is trying a new method or technology, they often want some kind of assurance that if it fails there will be some compensation or guarantee to have it fixed. This is especially true with alternatives to bulkheads. Engineer stamps, if they are received, are often not enough reassurance.

B. Program Gaps

1. **Marine Resources Committee (MRC).** Many counties in Puget Sound have MRCs (RCW 36.125) to coordinate a variety of interests in order to restore and preserve our natural resources for ecological and economic reasons. Funding is often available for restoration projects entirely through MRCs. Thurston is not part of a MRC and is likely at a further disadvantage in restoration because of this.
2. **Shoreline Armoring Removal and/or Funding for Alternatives.** Similar to the septic loan programs available to private property owners, a program for removing unwanted or unnecessary shoreline structures is needed. Thurston County's EPA grant, Regional Shoreline Restoration Project, will provide a prioritization of sediment-source beaches and high biological function with an overlay of property owners interested in removing armoring on their property. The grant supplies funding for a very limited number of

selected private properties, but no long-term solution to providing funding assistance exists. One solution to encourage alternatives to hard armoring may be to lower the property tax of the property owner for a set number of years to make up the difference in cost between hard and soft armoring methods. Another solution involves a type of bulkhead-specific in-lieu fee program. If and when on-site mitigation options are no longer beneficial, then a fee could be paid to fund bulkhead removal of a similar type, preferably in the same drift cell or on a shoreline with similar functions.

3. Parcel Advance Mitigation. A mitigation system for shorelines is lacking in general, but a system whereby if a property owner is able to demonstrate restoration on that property within 5 years prior to the proposed permit project, it may count towards mitigation for development, if the functions are similar enough. Note, however, that once the project is used towards mitigation, it ceases to be counted as restoration for the purposes of the Program.

C. Funding Gaps

1. See C.7.B Program Gaps
2. Monitoring and Enforcement. The current local funding situation does not provide for regular on-site monitoring for program effectiveness. This applies to both regulatory program effectiveness and restoration program structure. Most, if not all, restoration grants are limited in their timelines and scope. Due to this system, restoration projects either run out of funding or do not have enough time in the grant round to conduct meaningful project effectiveness monitoring.
3. Tax Incentives. Some landowners may be willing to sell the development rights to a land trust for at least a portion of their shoreline property if they could afford it. In addition to the existing Open Space Tax Incentive Program, one tax incentive may be to deduct the difference in assessed value and conservation easement sale price from the owner's property taxes a certain amount each year until the difference is made up, or in one lump sum the year the transfer occurs.

C.8 Conclusions

The Thurston County Shoreline Restoration Plan builds on the goals and policies proposed in the Program. The Shoreline Restoration Plan provides an important non-regulatory component of the Program to ensure that shoreline functions are maintained or improved despite potential incremental losses that may occur in spite of Program regulations and mitigation actions.

The Shoreline Restoration Plan draws on multiple past planning efforts at various scales and distinct areas of focus. Site-specific projects, ongoing programs, and existing funding opportunities are identified. Many of the projects and strategies identified are focused on restoring shoreline processes where possible. The Shoreline Restoration Plan represents a long-term vision for restoration that will be implemented over time, resulting in ongoing improvement to the functions and processes in the County's marine and freshwater shorelines.

Appendix D. Channel Migration Zone Maps

D.1 Purpose

The Washington Department of Ecology Shorelines and Environmental Assistance Program is responsible for managing Shoreline Master Program (SMP) updates and providing technical and policy assistance to local communities. The Department of Ecology has provided the following maps of the general location of planning level channel migration zones (pCMZs) for Thurston County.

The CMZ delineations represent the “general location” because they relied on remote sensing data and did not include a detailed analysis of historic migration rates, nor did they include field verification or geotechnical assessments. These general CMZ files are intended to provide preliminary maps that comply with SMP guidelines, assist with planning, and indicate areas where additional data and analysis should be conducted to complete a more detailed delineation.

D.2 Supplemental Information

Complete description of data and methods are available in a Department of Ecology report entitled *Draft Channel Migration Assessment, Thurston County, December 2011*.

Data in the geographic information system (GIS) files is compliant with the Draft Quality Assurance Project Plan available from the Department of Ecology.

D.3 CMZ Draft Metadata

The following list captures the basic characteristics of the data:

Current coordinate system: NAD_1983_HARN_StatePlane_Washington_South_FIPS_4602_Feet
 Projection: Lambert_Conformal_Conic
 False_Easting: 1640416.666667
 False_Northing: 0.000000
 Central_Meridian: -120.500000
 Standard_Parallel_1: 45.833333
 Standard_Parallel_2: 47.333333
 Latitude_Of_Origin: 45.333333
 Linear Unit: Foot_US
 GCS_North_American_1983_HARN
 Datum: D_North_American_1983_HARN
 Prime Meridian: Greenwich
 Angular Unit: Degree

Planning-level channel migration zones are derived from remotely sensed data and are meant to be used for general planning purposes only. Delineating actual channel migration areas requires detailed on-site analysis and surveys that are beyond the scope of this data.

For more information, see WA Dept. of Ecology Publication #14-06-025, A Methodology for Delineating Planning-Level Channel Migration Zones.

D.4 Shapefile Descriptions

Shapefile	Abstract
[Stream name]_2002_Channel	This is the stream line traced from the Light Detection and Ranging (LiDAR) digital elevation model (DEM).
[Stream name]_SMP_CMZ	<p>This file is part of the Washington Department of Ecology Shorelines and Environmental Assistance Program identification of channel migration zones (CMZ) in selected streams of Thurston County. The CMZ is the area along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings [see WAC 173-26-020(7)]. The general CMZ includes the active channel corridor, the avulsion hazard areas, and the erosion hazard buffer.</p> <p>The shapefile also includes polygons for the disconnected channel migration zone (DMA). This is the area located in the CMZ where publicly maintained man-made structures that are at least at the 100-year flood elevation restrict channel migration [see WAC 173-26-221(3)(b)].</p>
[Stream name]_geoflag	This file is part of the Washington Department of Ecology Shorelines and Environmental Assistance Program identification of CMZs in selected streams of Thurston County. This file describes the geotechnical setback buffer applied to CMZs where channel and terrace banks are at risk of mass wasting due to erosion of the toe of the slope. Geotechnical buffers were applied where there was an elevation difference of 25 feet between the water surface and the elevation of the CMZ. Geotechnical buffers indicate that an additional geotechnical review should be conducted in the field to determine the width of the geotechnical buffer.
[Stream name]_landform	This file is part of the Washington Department of Ecology Shorelines and Environmental Assistance Program identification of CMZ in selected streams of Thurston County. This file outlines alluvial fans, features deposited by a stream at the place where it issues from a narrow mountain or upland valley or where a tributary stream enters its junction with the main stream. An alluvial fan is a low, outspread mass of loose materials (sand, cobbles, boulders) with variable slope, shaped like an open fan or a segment of a cone.
[Stream name]_features	This file is part of the Washington Department of Ecology Shorelines and Environmental Assistance Program identification of CMZ in selected streams of Thurston County. This file includes explanation of geomorphic features and pertinent lines of evidence for the CMZ delineation. The file also includes potential inundation zones (PIZ), areas of the valley bottom that are at or below the approximate water surface elevation. These areas could be subject to inundation when there is an over-bank flood.
Stream name]_reach_breaks	This file is part of the Washington Department of Ecology Shorelines and Environmental Assistance Program identification of CMZ in selected streams of Thurston County. Streams were subdivided into geomorphic reaches for the channel migration assessment. Criteria considered when delineating reach breaks included changes in gradient, valley width, tributary inputs, channel type, land use, geology or substrate.

Appendix E: Critical Area Regulations Incorporated By Reference

E.1 Incorporation of Title 24 TCC

RCW 90.58.090(4) and RCW 36.70A.480(3) require jurisdictions to incorporate protections for critical areas into their master programs for those critical areas occurring within shoreline jurisdiction. All critical areas located within the minimum shoreline jurisdiction as defined in RCW 90.58 and 173-22 WAC are considered part of shoreline jurisdiction governed by this program. The entire extent of critical areas located partially within minimum shoreline jurisdiction, and buffers necessary to protect those critical areas, are also part of shoreline jurisdiction governed by this program, with the exception of critical aquifer recharge areas, lahar hazards, seismic hazards, mine hazards, and terrestrial species and their habitats subject to Chapter 24.25 TCC.

Development standards for critical areas will continue to apply within shoreline jurisdiction, unless noted otherwise below. Permitting and administration for critical areas within shoreline jurisdiction shall be handled solely by the SMP. In general, the following provisions of the Critical Areas Ordinance (Ordinance No. 14773, adopted July 24, 2012) do not apply within shoreline jurisdiction:

1. Requirements to obtain Reasonable Use Exceptions – these shall be replaced by shoreline variances.
2. Requirements to obtain Critical Area Review Permits – these shall be replaced by shoreline permits.
3. Statements about conflicts between regulatory documents. Such conflicts shall be handled pursuant to 19.100.125 TCC.

The following sections of Title 24 TCC, Critical Areas Ordinance, dated July 24, 2012, are incorporated into this master program per 19.400.115 TCC, and provided here for reference purposes only, except as supplemented or modified under Sections 19.400.115(B) - 19.400.115(G) of the SMP:

1. General Provisions (Chapter 24.01 TCC)

This chapter is incorporated into this appendix except paragraph 24.01.030(D). Conflicts between critical area and SMP provisions are handled by the SMP per 19.100.125(B).

24.01.005 Short title.

This title shall be known as the "Thurston County Critical Areas Ordinance."

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.010 Purpose—Statement of policy for critical areas.

These regulations are intended to:

- A. Minimize loss of life, injury, and property damage due to natural hazards such as flooding, landslides, seismic events, and volcanic eruptions, minimize the need for emergency rescue, and avoid the cost of replacing public facilities;
- B. Identify and protect the functions and values of unique, fragile, and vulnerable elements of the environment such as fish and wildlife habitats, wetlands, and other ecosystems;

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- C. Maintain water quality and quantity to meet human and wildlife needs;
- D. Recognize and address cumulative adverse impacts that could degrade or deplete water resources, wetlands or fish and wildlife habitat, or exacerbate flooding and landslide hazards;
- E. Alert the public to the development limitations and hazards associated with critical areas;
- F. Protect critical areas, associated buffers designed to protect the functions of critical areas, and their functions and values while allowing reasonable use of property by: directing activities not essential in such areas to other locations; providing for review of proposed uses and activities on properties containing critical areas or their buffers to achieve compliance with standards designed to minimize impacts to critical areas and associated buffers; and providing for mitigation of unavoidable impacts;
- G. Establish enforcement tools and processes designed to deter activities in violation of this chapter and provide for remedial action for unauthorized impacts to critical areas and their buffers;
- H. Implement the Washington State Growth Management Act (RCW 36.70A), including consideration of best available science in the designation, protection, and management of critical areas, with special consideration for the protection of anadromous fish; and
- I. Carry out the goals and policies of the Thurston County Comprehensive Plan.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.015 Purpose—Statements for critical areas categories.

A specific purpose statement also begins each of the critical areas categories.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.020 Critical areas designated.

To carry out the purposes of this title and the Growth Management Act (RCW 36.70A), the following critical areas further described in this title shall be designated in the unincorporated territory of Thurston County:

- A. Critical aquifer recharge areas;
- B. Geologic hazards;
- C. Frequently flooded areas;
- D. Fish and wildlife habitat conservation areas; and
- E. Wetlands.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.025 Applicability of critical areas regulations.

The provisions of this title for regulating critical areas shall apply to all land, all water areas and all structures, and all uses irrespective of lot lines in the unincorporated territory of Thurston County, Washington, except for agricultural activities (new and existing). Agricultural activities meeting the requirements of TCC Section 17.15.110 shall be regulated by Chapter 17.15 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 2(Att. B), 12-17-2013)

24.01.030 Interpretations.

For the purposes of this title, certain words and terms shall be interpreted as follows:

- A. The director shall review and resolve any questions involving the proper interpretation or application of the provisions of this title that may be requested by any property owner, tenant, government officer, department, or other person affected. The director's decision shall be in keeping with the intent of this title, the Thurston County Comprehensive Plan, the Growth Management Act, and other applicable federal, state and county regulations.
- B. Recognizing that there may be uses not specifically mentioned in this title, either because of advancing technology or any other reason, the director may permit or condition such use if it is clearly evident that the use is consistent with the listed principal uses permitted in the critical area in which it is to be located. The decision by the director shall be in writing, published on the county's web page, and can be appealed in accordance with this title.
- C. When interpreting and applying the regulations of this code, its provisions shall be the minimum requirements, unless otherwise stated.
- D. [Not incorporated]
- E. When the exact location of a critical area or buffer is in doubt, or where there appears to be a conflict between a mapped boundary and actual field conditions, county personnel shall determine the correct boundary. The approval authority may also require submittal of a report by a qualified professional, at the applicant's expense, as needed to make such determinations. The approval authority may, at the applicant's expense, require a third party review of a report. The approval authority shall determine the third party reviewer.
- F. In the event that a boundary on an official county critical areas map depicting critical areas conflicts with the application of the text of this chapter, the text shall control.
- G. Words used in the present tense can include the future; words used in the masculine gender can include the feminine and neuter; words in the singular number can include the plural; and words in the plural can include the singular, unless obvious construction of the wording indicates otherwise.
- H. The inclusion of the words "must" and "shall" in a regulation indicates the requirement is mandatory.
- I. Unless otherwise specified, all distances shall be measured horizontally and at right angles to the line from which the distance is specified.
- J. Unless otherwise specified, the term "day" shall mean calendar day.
- K. The word "used" shall be deemed to also include "designed, intended, or arranged to be used"; the term "erected" shall be deemed also to include "constructed, reconstructed, altered, placed or relocated."
- L. The terms "land use" and "use of land" shall be deemed also to include the building use and use of building.
- M. The terms "Board of Thurston County Commissioners," "planning commission," "hearing examiner," "resource stewardship director," "health officer," "building officer," "building inspector" and other similar officers shall mean the respective boards, commissions, and officers of Thurston County and/or their authorized agents. The use of the term "board" or "Board" shall always mean the Board of

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Thurston County Commissioners. The use of the terms "planning commission" or "Planning Commission" shall always mean the Thurston County Planning Commission. The use of the terms "examiner" or "hearing examiner" shall always mean the Thurston County Hearings Examiner. The term "director" shall always mean the resource stewardship director or designee.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.035 General requirements.

- A. **Avoid Impacts.** All uses and activities on sites containing critical areas and/or associated buffers or riparian or marine shoreline management zones shall be located, designed and constructed to avoid or, where that is not possible, minimize all adverse impacts to critical areas, associated buffers designed to protect the functions of critical areas, and management zones. The county shall not authorize impacts to critical areas or buffers unless the applicant demonstrates an inability to avoid impacts and that there will be no net loss of critical area functions as required in subsection (B). Impacts to critical areas and associated buffers that cannot be avoided shall be minimized by sensitive site design and appropriate precautions during the permitted activity and as specifically provided for in this title.
- B. **No Net Loss of Critical Area Functions.** Uses and activities carried out pursuant to this title shall result in equivalent or, if the applicant chooses, greater critical area functions. Impacts to critical areas, and associated buffers designed to protect the functions of critical areas, shall be repaired or mitigated through restoration, replacement, enhancement, or through purchase of credits at a mitigation bank consistent with the applicable provisions of this title.
- C. **Monitoring.** In addition to the specific monitoring requirements in this title, the approval authority may require that permitted uses and mitigation projects be reviewed at appropriate intervals as necessary to ensure that they are functioning consistent with the project approval and applicable provisions of this title. The approval authority may require remedial action as warranted to correct problems identified during monitoring to avoid degradation of critical areas and associated buffers designed to protect the functions of critical areas, and to ensure that any required mitigation is successful.
- D. **Access to Enable Administration.** Property owners shall grant access to the county, or designee, for the purpose of inspecting sites proposed for development and performing monitoring required pursuant to this title. County personnel shall present proper credentials and make a reasonable effort to contact the property owner before entering onto private property.
- E. **Forestry.** As required by state law, forestry and associated development subject to county approval under Chapter 17.25 TCC, Thurston County Forest Lands Conversion Ordinance, are subject to the provisions of this chapter. In the event that any provision of this chapter conflicts with state forest practices regulations, the County shall apply the more restrictive provision to uses subject to Chapter 17.25 TCC.
- F. **Property Assessment Relief.** The Thurston County Assessor shall consider the restrictions on property use imposed pursuant to this title, particularly on conservation areas and critical area tracts, when determining the fair market value of land.
- G. **Construction Setbacks.** Construction activity must occur outside of the critical area and associated buffer unless specifically authorized pursuant to this title. Structures or uses requiring a permit shall be set back a minimum of fifteen feet from wetland buffers, riparian habitat areas, marine buffers, important habitat buffers, priority species conservation areas, and landslide hazards area buffers unless the applicant demonstrates to the approval authority's satisfaction that the proposed construction activity will not

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encroach into the protected area. Structures and uses not requiring a building permit are required to observe the setbacks and other requirements of this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.037 Mitigation sequencing.

Mitigation actions associated with development proposals impacting critical areas shall adhere to the following mitigation sequence:

- A. Avoiding the impact altogether by not taking a certain action or parts of an action;
- B. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
- C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- D. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
- E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or
- F. Monitoring the impact and taking appropriate corrective measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.040 Critical areas maps.

- A. Official Maps. The resource stewardship department director, or designee, shall maintain the official critical areas maps.
- B. Maps Submitted by Applicants. Applicants shall submit required maps delineating critical areas and/or associated buffers in a digital format acceptable to the county to enable incorporation of the data in the official critical areas maps.
- C. Map Omissions. The presence of critical areas or associated buffers on a parcel triggers the requirements of this chapter, regardless of whether or not a critical area or buffer is depicted on an official critical areas map.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.050 Best available science.

- A. The Growth Management Act (RCW 36.70A) requires jurisdictions to consider the best available science in developing policies and development regulations to designate and protect critical areas. Best available science guidance criteria are located in WAC 365-195-900 through 365-195-925, as amended, which have been incorporated in the definition for best available science in this title (Chapter 24.03 TCC).
- B. Thurston County has considered and included best available science in developing this title. This has been achieved through research and consultation with experts, including state and federal agencies. Relevant nonscientific information, including legal, social, policy, economic, and land use issues has also been considered. The use of nonscientific information reflects the county's responsibility to balance the goals of the Growth Management Act (RCW 36.70A), and the need to address local circumstances. The

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county shall also use its authority under the State Environmental Policy Act (RCW 43.21C) to identify, consider, and mitigate where appropriate, significant adverse effects on critical areas not otherwise addressed by this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.01.055 Discontinuation of agricultural uses/activities.

A. The following shall apply to lands that were not considered lands with agricultural activities prior to July 24, 2012, but subsequently became lands with agricultural activities:

1. The critical area provisions of this title shall apply to new uses when the land use changes from an agricultural activity meeting the requirements of TCC Section 17.15.110 to a nonagricultural activity;
2. Any critical areas that were on the property prior to the agricultural activity shall be restored to the condition that the critical areas were in prior to the establishment of the agricultural activity; and
3. If restoration is not possible, onsite or offsite mitigation may be required.

B. Subdivision of land is not included in the definition of agricultural activities in Chapter 36.70A RCW. Lots created through subdivision of land, short plats, large lots, and binding site plans shall show buildable areas for each lot created that meet the requirements of this title. A notice shall be recorded on the plat map that conversions out of agricultural activities are subject to this title, and that agricultural activities can continue subject to the Thurston County Agricultural Activities Critical Areas Ordinance (Chapter 17.15), as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

2. Definitions (Chapter 24.03 TCC)

The following section of the CAO is included, except where conflict exists, then the definitions in this Program shall govern.

24.03.010 Definitions.

The following definitions shall apply to this title:

"Accessory structure" means a structure detached from the principal building located on the same lot and customarily incidental and subordinate to the principal building. Any part of the main building which shares a common wall and roof is considered a part of that building. A building or portion thereof attached to a primary structure by a covered breezeway is not considered attached.

"Accessory use" means a use of land or a portion thereof customarily incidental and subordinate to the principal use of the land and located on the same lot with the principal use.

"Accessory use, residential" means an accessory use to a primary residence as defined in this chapter, including but not limited to keeping household pets, private pools, docks, boathouses, detached accessory structures, private green houses, and agriculture or gardening for personal consumption which is secondary to the use of the property as a residence, including no employees.

"Adjacent" means nearby and not necessarily contiguous.

"Adjoins" means sharing a common boundary of sufficient width to maintain vehicular access.

"Alteration, structure" means change to, addition to, or modification of an existing physical structure beyond routine repair and maintenance but not amounting to complete replacement. This includes changes to the supporting members of a building such as bare walls, columns, beams, floor joists, roof joists, girders, rafters, or changes in roof or exterior building footprint. An alteration also includes activity that requires a building permit. The cost of an alteration shall not exceed fifty percent of the structure's current market value as determined by an accredited appraisal or the assessor's valuation, at the owner's option. The value shall be determined based the value of the structure either before the repair, maintenance, alternation, or expansion is started, or if the structure has been damaged, and is being restored, before the damage occurred.

"Alteration, use" means change to, addition to, or modification of an existing use, including any human activity that results or is likely to result in an adverse impact upon the existing condition of a critical area or its buffer. "Alteration" does not include passive recreation such as walking, fishing or similar low impact activities.

"Anadromous fish" means fish that hatch and rear, to some extent, in freshwater, migrate to marine waters to feed and mature, then return to freshwater to spawn. Examples include salmon, steelhead trout, sea-run cutthroat trout, sea-run Dolly Varden, sea-run bull trout, and Pacific and river lamprey.

"Applicant" means any person, business entity, or a government agency which applies for a development proposal, permit or approval subject to review under this chapter.

"Approval authority" means the director of the Thurston County Resource Stewardship Department, or his/her designee, for administrative permits or the hearings examiner for proposals as shown in Chapter 24.05 TCC.

"Aquatic noxious weeds" means aquatic plants on the state noxious weed list as prescribed by RCW 17.10.010.

"Aquatic plants" means beneficial plants and noxious weeds that occur within the ordinary high water mark (OHWM) of state waters.

"(Nitrate) Assimilative capacity" means the difference between the nitrate water quality standard of 10.0 mg/l and the site background nitrate concentration. Maximum contaminant levels for drinking water are defined by Chapter 246-290 WAC.

"Bankfull depth" means the average vertical distance between the channel bed and the estimated water surface elevation required to completely fill the channel to a point above which water would enter the flood plain or intersect a terrace or hillslope. In cases where multiple channels exist, the bankfull depth is the average depth of all channels along the cross-section.

"Bankfull width" means:

- (a) For streams, the measurement of the lateral extent of the water surface elevation perpendicular to the channel at bankfull depth. In cases where multiple channels exist, bankfull width is the sum of the individual channel widths along the cross-section;
- (b) For lakes, ponds, and impoundments, line of mean high water.
- (c) For tidal water, line of mean high tide.

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

"Base flood elevation (BFE)" means the flood elevation as indicated on any of the following:

- (a) Thurston County Flood Insurance Rate Map prepared by the Federal Emergency Management Agency (FEMA), supplemented by the current Flood Insurance Study for Thurston County; or
- (b) The Thurston County High Ground Water Hazard Area Resource Map on file with the Resource Stewardship Department or recognized by a detailed Thurston County groundwater study; or
- (c) The highest known recorded flood elevation.

If there is more than one base elevation listed, the county shall utilize whichever elevation is greater.

"Beneficial use" means the use of solid waste as an ingredient in a manufacturing process, or as an effective substitute for natural or commercial products, in a manner that does not pose a threat to human health or the environment. Avoidance of processing or disposal cost alone does not constitute beneficial use.

"Best available science" means scientific information applicable to this title that is prepared by local, state or federal natural resource agencies, scientifically based peer reviewed literature, a qualified scientific professional or a team of qualified scientific professionals, that is consistent with the Growth Management Act (RCW 36.70A) and the criteria established in the Washington Administrative Code regarding best available science (WAC 365-195-900 through 365-195-925, as amended) to implement the Growth Management Act.

"Best management practices (BMPs)" means conservation practices or systems of practices and management measures that:

- (a) Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxics, or sediment;
- (b) Minimize adverse impacts to surface water and groundwater flow and circulation patterns and to the chemical, physical, and biological characteristics of a critical area;
- (c) Protect trees, vegetation and soils designated to be retained during and after site construction and use native plant species appropriate to the site for re-vegetation of disturbed areas; and
- (d) Provide standards for property use of chemical herbicides within critical areas.

"Bioengineering" means use of plant materials, particularly native plants, that have root systems that stabilize the soil and are adapted to the local climate and soil conditions; and large woody debris, designed to stabilize eroding stream channels and banks, marine shorelines, or slopes. Bioengineering may contain limited structural elements for anchoring such as rock.

"Biosolids" means municipal sewage sludge that is a primarily organic, semisolid product resulting from the waste-water treatment process, that can be beneficially recycled and meets all requirements under chapter 173-308 WAC, and other applicable provisions of the Thurston County Code, as amended. Biosolids includes a material derived from biosolids, and septic tank sludge, also known as septage, that

can be beneficially recycled and meets all applicable requirements under chapter 173-308 WAC, as amended.

"Buffer, critical area" means that area which surrounds and protects the functions and values of critical areas from adverse impacts, minimizes public safety risks, and/or which may provide wildlife habitat integrally related to the critical area. See also "riparian habitat area."

"Buildable area" or "building envelope" means the three-dimensional space within which a structure or development is permitted to be built on a lot and which is defined by regulations in this title and subject to other provisions of the Thurston County Code, state and federal laws.

"Building" means any structure used or intended for supporting or sheltering any use or occupancy. The word building includes the word structure and the word structure includes the word building.

"Building footprint" means the area delineated by the outer edge of the foundation.

"Bulkhead" means walls or structures constructed parallel to the shoreline whose primary purpose is to retain the slope or prevent the erosion of soil due to wave action.

"Channel migration zone" means the area where the active channel of a stream is prone to move, resulting in a potential near-term loss of riparian function and associated habitat adjacent to the stream, except as modified by a permanent levee or dike. For this purpose, near-term means the time scale required to grow a mature forest; those areas within the lateral extent of likely stream channel movement that are subject to risk due to stream bank destabilization, rapid stream incision, stream bank erosion, and shifts in the location of stream channels.

"Channel migration hazard area - one hundred year" means a portion of the channel migration zone, including the present channel, that equals one hundred times the average annual channel migration rate, plus the present channel width.

"Chemical storage" means the storage of chemicals within an enclosed container or structure.

"Coastal high hazard area" means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on the flood insurance rate map (FIRM) as Zone V1-30, VE or V.

"Composting" means the biological degradation and transformation of organic solid waste under controlled conditions designed to promote aerobic decomposition. Natural decay of organic solid waste under uncontrolled conditions is not composting.

"Composting facility" means all contiguous land (including buffer zones) and structures, other appurtenances, and improvements on the land used for composting. This does not include home composting.

"Conservation area" means an easement or area shown on a lot or plat that contains one or more types of critical areas, but may not itself constitute a separate lot.

"Conservation easement" means a limited protective easement granted to Thurston County or a nonprofit entity (e.g., Land Trust) to enable the county to protect a critical area and associated buffer from use and development that is inconsistent with this title.

"Construction period" means the period during which all construction related activities are initiated and completed, including but not limited to, clearing, grading, building, finishing and landscaping.

"Contaminants of emerging concern (CECs)" means substances present in water or soils, for which environmental or health standards have not been established. These are often generally referred to as "contaminants of emerging concern" because the risk to human health and the environment associated with their presence, frequency of occurrence, or source may not be known. These substances are known to include endocrine disrupting chemicals, perfluorinated compounds, and pharmaceuticals and personal care products. Contaminants of emerging concern may also be referred to as "constituents of emerging concern," "compounds of emerging concern" or "chemicals of emerging concern."

"Contamination" means the presence in the outdoor atmosphere, ground, or water of any substances, contaminants, noise, or man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of air or water, in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare, animal, or plant life, or property, or unreasonably interfere with the enjoyment of life or property.

"County" means the County of Thurston, State of Washington, unless otherwise specified by this title.

"County boundary" means the exterior boundary of the county.

"Contiguous." See "adjoins."

"Critical aquifer recharge area" means an area with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge.

"Critical area tract" means an area containing a critical area owned in common by the owners of separate lots within a development proposal, and/or a conservation easement or lot.

"Critical areas" means the following areas, as per RCW 36.70A:

1. Critical aquifer recharge areas;
2. Geologic hazard areas;
3. Fish and wildlife habitat conservation areas;
4. Flood and channel migration hazard areas; and
5. Wetlands.

"Critical facilities" means those facilities which are particularly vulnerable to natural disasters, or which pose a high risk to the public if damaged (e.g. dams), or which are necessary for emergency (e.g., earthquake, flood, etc.) operations or are listed as category III or IV in the International building code. Refer to Table 24.15-2 for a current list of "Critical Facilities for Thurston County."

"Crown cover" means the area covered by tree crowns.

"Danger tree." See "hazard tree."

"Department" means the "resource stewardship department" unless otherwise specified in this title.

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"Development" means any human-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, clearing, paving, excavation or drilling operations, storage of equipment or materials, or any other activity which results in the removal of vegetation or in the alteration of natural site characteristics.

"Development proposal" means any of the activities relating to the use and/or development of land requiring a permit or approval from Thurston County as described in this title.

"Development proposal site" means the legal boundaries of the parcel or parcels on which an applicant has applied for authority from Thurston County to carry out a development proposal.

"Dispersion" means the release of surface and stormwater runoff from a drainage facility system such that the flow spreads over a wide area and is located so as not to allow flow to concentrate anywhere upstream of a drainage channel with erodible underlying granular soils.

"Drainage district" means an active drainage district as provided in chapters 85.06 and 85.38 RCW. Active drainage districts in Thurston County include, but are not limited to, Chambers Lake, Hopkins Creek (i.e. Hopkins Ditch), and Scott Lake.

"Dripline" means the area defined by the outermost circumference of a tree canopy.

"Dry cleaner facility" means an establishment which launders or dry cleans articles dropped off on the premises directly by the customer, but excluding facilities where articles are dropped off, sorted, and picked up but where laundering or cleaning is done elsewhere.

"Duff layer" means the matted, friable, partly decomposed, organic surface layer of forested soils. This term is used to identify a generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

"Emergency" means an unanticipated and immediate threat to public health, safety or the environment which requires immediate action within a time period too short to allow submission and review of an application in compliance with this chapter.

"Enhancement" means an action which improves the functions of a stream, wetland, or other wildlife habitat.

"Erosion hazard areas" means land characterized by soil types that are subject to severe erosion when disturbed. These include, but are not limited to, those identified by the United States Department of Agriculture Soil Conservation Service Soil Classification System, with a water erosion hazard of "severe" or "high" (See Table 24.15-3, Erosion Soils of Thurston County). These areas may not be highly erodible until or unless the soil is disturbed by activities such as clearing or grading.

"Exotic" means any species of plants or animals not indigenous to Thurston County.

"Expansion" means alteration of a structure beyond the existing building footprint, or the alteration of a use beyond the existing use area. Also see definition of "alteration."

"Expansion, vertical." Refer to definition of "alteration."

"Federal" means the federal government of the United States.

"Federally designated endangered and threatened species" means those fish and wildlife species identified by the U.S. Fish and Wildlife Service that are in danger of extinction or threatened to become endangered.

"Fill" means a deposit or redistribution of any earth, vegetation, debris or other materials within a one-hundred-year floodplain; or within an important habitat, lake, pond, stream, or wetland; and their associated buffers as described in this chapter. Large woody debris or other native materials approved as a part of a habitat restoration project shall not be considered fill.

"Fish and wildlife habitat conservation" means land management 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. This does not mean maintaining all individuals of all species at all times, but it does mean not degrading or reducing populations or habitats so that they are no longer viable over the long term.

"Fish and wildlife habitat conservation areas" are areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness. These also include locally important habitats and species.

Fish and wildlife habitat conservation areas that must be considered for classification and designation include:

- A. Areas where endangered, threatened, and sensitive species have a primary association;
- B. Habitats and species of local importance, as determined locally;
- C. Commercial and recreational shellfish areas;
- D. Kelp and eelgrass beds; herring, smelt, and other forage fish spawning areas;
- E. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat;
- F. Waters of the state;
- G. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- H. State natural area preserves, natural resource conservation areas, and state wildlife areas; and
- I. Any other habitat areas as defined by WAC 365-190-130, as amended.

"Fish hatcheries" mean those structures, ponds and on-site improvements used for the propagation and rearing of various types of fin-fish but does not include egg boxes, egg tubes or other similar fisheries enhancement activities undertaken within the stream channel.

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

"Floodplain, one hundred-year," "one hundred-year floodplain" or "flood hazard areas" means those lands which are subject to a one percent or greater chance of flooding in any year. (Refer to Figures 11 and 12 located at the end of this chapter.)

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

"Flood protection facility" or "flow control facility" means those physical structural works which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to flooding and the extent of the depths of associated flooding. Such a system typically includes dams, reservoirs, levees, or dikes.

"Forest, mature" means a stand of trees that have developed for ninety years or longer.

"Forest, old growth" means a stand of trees that have developed for one hundred fifty years or longer and have the following structural characteristics: large old-growth trees, large snags, large logs on land, and large logs in streams.

"Forest practices" means any activity conducted on or impacting forest land. This may include, but is not limited to:

1. Road and trail construction;
2. Harvesting, final and intermediate;
3. Precommercial thinning;
4. Reforestation;
5. Fertilization;
6. Prevention and suppression of diseases and insects;
7. Salvage of trees; and
8. Brush control.

Forest practices shall not include preparatory work such as tree marking, surveying and road flagging; or removal or harvest of incidental vegetation from forest lands such as berries, ferns, greenery, mistletoe, herbs, mushrooms and other products which cannot normally be expected to result in damage to forest soils, timber or public resources.

"Frequently flooded areas" means lands in the flood plain subject to at least a one percent or greater chance of flooding in any given year or areas within the highest known recorded flood elevation, or within areas subject to flooding due to high ground water. This includes all areas within unincorporated Thurston County identified on flood insurance rate maps prepared by the Federal Insurance Administration, as supplemented by "The Flood Insurance Study for Thurston County," dated November 17, 1980, as amended. (These maps and the referenced report shall be on file with the department at the Thurston County Permit Assistance Center). Frequently flooded areas may include special flood hazard areas as defined in Chapter 14.38 TCC or high ground water flood hazard areas, where high ground water forms ponds on the ground surface, or may overlap with other critical areas, such as streams, rivers, lakes, coastal areas, and wetlands.

"Functions and values" or "functions" means the beneficial roles served by critical areas. For example, functions and values associated with wetlands include: water quality protection and enhancement, fish

and wildlife habitat, food chain support, flood storage, conveyance and attenuation, groundwater recharge and discharge, erosion control, wave attenuation, aesthetic value and recreation.

"Gardening for personal consumption" means the production of typical garden crops (e.g. fruits, vegetables and herbs) that are not intended for retail sale. Generally, personal gardens are no larger than two thousand square feet and do not require clearing of habitat areas or buffers.

"Geologic hazard areas" means those areas that because of their susceptibility to erosion, landsliding, earthquake, volcanic lahar, liquefaction or other geological events, are not suited to siting commercial, residential or industrial development consistent with public health or safety concerns.

"Geologist" means a person who has earned a degree in geology from an accredited college or university, or a person who has equivalent educational training and has experience as a practicing geologist, licensed in the State of Washington.

"Geotechnical engineer" means a practicing, geotechnical/ civil engineer licensed as a professional civil engineer with the State of Washington who has at least four years of professional employment pertaining to the field of geotechnical engineering.

"Geotechnical professional" means a person with experience and training in analyzing, evaluating, and mitigating any of the following: landslide, erosion, seismic, volcanic and/or mine hazards, or hydrogeology, fluvial geomorphology and river dynamics. A geotechnical professional shall be licensed in the State of Washington as an engineering geologist or professional engineer. In accordance with WAC 308-15-140 and 196-27-020, engineering geologists and professional engineers shall affix their signatures or seals only to plans or documents dealing with subject matter in which they are qualified by training or experience.

"Grading" means any excavating or filling of soil, or removal of the duff layer, or any combination thereof.

"Habitats of local importance" means those habitats designated as locally important by Thurston County. These may include a seasonal range or habitat element with which a given species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long-term. These might include areas of high relative density or species richness, breeding habitat, winter range, and movement corridors. These might also include habitats that are of limited availability or high vulnerability to alteration. Also see "species of local importance."

"Hazardous materials" means those substances, debris and waste which are a physical or health hazard, chemical substances that are ignitable, corrosive, reactive or toxic, consistent with Chapter 173-303 WAC and the International Fire Code (2009), as amended, including chemicals listed in WAC 173-303-9903 as "P" chemicals.

"Hazard tree" or "danger tree" means a tree with a high probability of falling due to a debilitating disease, a structural defect, a root ball more than fifty percent exposed, or having been exposed to wind throw within the past ten years, and where there is a residence or residential accessory structure within a tree length of the base of the trunk, or where the top of a bluff or landslide hazard area is endangered. Where not immediately apparent to the review authority, the danger tree determination shall be made after review of a report prepared by an arborist certified in Washington State.

"Health officer" means that person of the Thurston County health department described as such in Chapter 70.05 RCW or his/her duly authorized representative.

"High ground water flood hazard areas" means an area where flooding occurs as a result of subsurface geologic conditions that prevent recharging water from moving downward or laterally as fast as it enters the ground water system. The result is a rise in the ground water table and accumulation of surfacing ground water, typically intermixed with stormwater that cannot infiltrate, at low points on the ground's surface. Such ponding may persist over protracted periods of time.

"Home composting" means composting of wastes generated on site, and incidental materials beneficial to the composting process, by the owner or person in control of a single-family residence, or for a dwelling that houses two to five families, such as a duplex or clustered dwellings.

"Hydric soil" means a soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil column. The presence of hydric soil shall be determined following the methods described in the Corps of Engineers Wetlands Delineation Manual (1987, as amended), with "Washington Regional Guidance on the 1987 Wetlands Delineation Manual" (1994, as amended). A list of "Hydric Soils of Thurston County" is contained in Table 24.30-5.

"Hydrologic regime" means the distribution over time of water in a watershed, among precipitation, evaporation, soil moisture, groundwater storage, surface storage, and runoff.

"Impervious surface" means pavement (compacted gravel, asphalt and concrete), roofs, revetments, or any other human-made surface which substantially impedes the infiltration of precipitation and other surface water that had entered the soil under natural conditions prior to development; and/or that hard surface area that causes water to run off the surface in greater quantities or at an increased rate of flow from that present under natural conditions prior to development. Common impervious surfaces include, but are not limited to: rooftops, walkways, patios, driveways, parking lots, concrete or asphalt paving, gravel roads, and packed earthen materials.

"Important habitats," "important species" or "important habitats and species" means those federal, state priority habitats and species and those local habitats and species recognized as such by this title. Also see "fish and wildlife habitat conservation."

"Important marine habitats" means marine shorelines of statewide significance and marine shorelines of the state (see chapter 90.58 RCW and related rules) consistent with WAC 173-26-221(2)(iii)(A). It also applies to marine areas supporting kelp and eelgrass beds; herring spawning areas; intertidal areas supporting surf smelt and sand lance spawning, salmonids, and shellfish beds sustaining commercial or recreational harvest, including shellfish protection districts established pursuant to Chapter 90.72 RCW.

"Integrated pest management (IPM)" means an approach to pest and vegetation control that utilizes regular monitoring to determine if and when treatments are needed. The approach emphasizes physical, mechanical, cultural, and biological tactics to keep pest numbers or vegetation problems low enough to prevent intolerable damage, annoyance, or public safety hazards. When chemical controls are necessary, they will be the least toxic available and will be used only when no other control methods would be effective or practical. Components for integrated pest management programs are established in the Thurston County Pest and Vegetation Management Policy.

"Intensification" means to alter the character of a use to the extent that the use generates new or greater impacts on the critical area and/or any associated buffers. See Section 24.50.035 TCC.

"Intensive use" means land uses that involve use or storage of hazardous materials or would generate excessive nutrients, sediments, or pollutants on property containing critical areas and/or buffers.

"Intermediate stability (I)" means slopes that are generally steeper than fifteen percent except where conditions such as weaker material and/or abundant groundwater exist. Identified areas include slopes of sand and gravel, till, or thin soils over bedrock which have no known failures. (Source: Coastal Zone Atlas of Washington, Volume 8 Thurston County (1980).)

"Invasive species" means nonnative organisms that cause economic or environmental harm and are capable of spreading to new areas of the state. "Invasive species" does not include domestic livestock, intentionally planted agronomic crops, or non-harmful exotic organisms.

"Lahar" means a flowing mixture of water-saturated debris that moves downslope under the force of gravity. Debris flows consist of material varying in size from clay to blocks several tens of meters in maximum dimension. When moving, they resemble masses of wet concrete and tend to flow downslope along channels or stream valleys. Debris flows are formed when loose masses of unconsolidated wet debris become unstable. Water may be supplied by rainfall or by melting of snow or ice. Debris flows may be formed directly if lava or pyroclastic flows are erupted onto ice or snow. Debris flows may be either hot or cold, depending on their manner of origin and temperature of their constituent debris.

"Lake" means a naturally existing or artificially created body of standing water twenty acres or larger in size. Lakes include reservoirs which exist on a year-round basis and occur in a depression of land or expanded part of a stream. A lake is bounded by the ordinary high water mark or the extension of the elevation of the lake's ordinary high water mark within the stream, where the stream enters the lake. All lakes meet the criteria of Chapter 90.58 RCW (Shoreline Management Act) and have been inventoried as "shorelines of the state" under the Shoreline Master Program for the Thurston Region, and Chapter 19.04 TCC.

"Landslide" means episodic downslope movement of a mass of soil or rock that includes but is not limited to rockfalls, slumps, mudflows, earthflows and snow avalanches.

"Landslide hazard areas" means those areas which are potentially subject to risk of landslide due to a combination of geologic, topographic, and/or hydrologic factors; and where the vertical height is fifteen feet or more, excluding those wholly manmade slopes created under the design and inspection of a geotechnical professional. The following areas, at a minimum, are considered to be subject to landslide hazards:

- A. Any area with a combination of:
 - 1. Slopes of fifteen percent or steeper; and
 - 2. Impermeable subsurface material (typically silt and clay), frequently interbedded with granular soils (predominantly sand and gravel); and
 - 3. Springs or seeping groundwater during the wet season;
- B. Slopes of forty percent or greater;
- C. Any areas located on a landslide feature which has shown movement during the Holocene Epoch (post glacial) or which is underlain by mass wastage debris from that period of time;
- D. Known hazard areas, such as areas of historic failures, including areas of unstable, old and recent landslides;

E. Breaks between landslide hazard areas shall be considered part of the landslide hazard area under the following condition: The length of the break is twice the height or less than the height of the slope below or above the break, whichever is greater; and the combined height is fifteen feet or more. When this condition is present, the upper and lower landslide hazard areas and the break shall be combined into one landslide hazard area.

"Large woody debris" means fallen trees and limbs with a minimum diameter of four inches and a minimum length of six feet that protrude or lay within a stream channel. These materials can include whole trees with a rootwad and limbs attached or portions of trees with or without rootwad or limbs.

"Legal lot" means a lot that meets the criteria for a legal lot in title 18 TCC, Platting and Subdivisions. The word "lot" includes the word "plot."

"Liquefaction" means a phenomenon in which strong earthquake shaking causes a soil to rapidly lose its strength and behave like quicksand. Liquefaction typically occurs in artificial fills and in areas of loose sandy soils that are saturated with water, such as low-lying coastal areas, lakeshores, and river valleys.

"Maintenance." See "repair and maintenance."

"Mass wasting" means one of several processes by which a large mass of rock or earth material is moved down slope by gravity.

"Marine bluff" means all the shorelines of Puget Sound, excluding the Nisqually Delta which extends from Luhr Beach easterly to the center of the Nisqually River.

"Marine bluff hazard area" means the following:

A. Those marine bluffs which have a vertical height of fifteen feet or more, including the upland area which lies within two hundred feet of the top of the marine bluff; or

B. Those marine bluffs mapped as "unstable"(U), "unstable recent landslide" (URS), unstable old landslide" (UOS) or "intermediate stability" (I) on the maps of the Coastal Zone Atlas of Washington; Volume 8 Thurston County (1980), including the upland area which lies within two hundred feet of the top of the marine bluff; provided that bluffs less than fifteen feet high and determined stable on an individual parcel basis by the approval authority may be excluded.

C. Known hazard areas, such as areas of historic failures or areas with active bluff retreat that exhibit continuing sloughing of bluff sediments resulting in a steep bluff face.

D. Breaks between marine bluff hazard areas shall be considered part of the marine bluff hazard area under the following condition: The length of the break is twice the height, or less, than the height of the slope below or above the break, whichever is greater, and the combined height is fifteen feet or more. When this condition is present, the upper and lower marine bluff hazard areas and the break shall be combined into one marine bluff hazard area.

E. Any other marine area that does not meet the criteria above may still be considered a landslide hazard area.

"Maximum contaminant level (MCL)" means the maximum concentration of a contaminant in water specified in WAC 246-290 and WAC 173-200, as amended.

"Methods of prevention and control" (MPCs) means reasonable methods of prevention and control. Examples of MPCs include, but are not limited to, pollution prevention plan development and

implementation, routine maintenance, secondary containment, and measures to eliminate containment pathways to the source water.

"Minerals" include gravel, sand, and valuable metallic substances.

"Mine hazard areas" means those areas directly underlain by, adjacent to, or directly affected by mine workings such as adits (mine entrances), gangways (tunnels), drafts or air shafts.

"Mitigation bank" means a program to implement mitigation at a subwatershed or watershed scale and provide opportunities to provide larger, better habitat in advance of impacts. Mitigation banking involves the generation of "credits" through restoring, creating, and/or enhancing habitats. These credits can then be sold to permit applicants who need to offset the adverse impacts of projects that would occur within the "service area" of the bank. Wetland mitigation is regulated by Chapter 90.84 RCW. The U.S. Army Corps of Engineers and U.S. Environmental Protection Agency also offer guidance.

"Mitigation" or "compensatory mitigation" means replacing project-induced critical area losses or impacts, and includes, but is not limited to, restoration, creation or enhancement.

"Mitigation, wetland creation (establishment)" means the manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site where a wetland did not previously exist. Establishment results in a gain in wetland acres. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species.

"Mitigation, enhancement" means the manipulation of the physical, chemical, or biological characteristics of a critical area to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in a change in some critical area functions and can lead to a decline in other functions, but does not result in a gain in critical area acreage. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these activities.

"Mitigation, wetland protection/maintenance (preservation)" means removing a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This includes the purchase of land or easements, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term "preservation." Preservation does not result in a gain of wetland acres, may result in a gain in functions, and will be used only in exceptional circumstances.

"Mitigation, re-establishment" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former critical area. Re-establishment results in a gain in critical area acreage (and functions). Activities could include removing fill material, plugging ditches, or breaking drain tiles.

"Mitigation, rehabilitation" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland or other critical area. Rehabilitation results in a gain in critical area function but does not result in a gain in critical area acreage. Activities could involve breaching a dike to reconnect wetlands to a floodplain or returning tidal influence to a wetland.

"Mitigation, restoration" means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland or other critical area. For the purpose of tracking net gains in wetland acres, restoration is divided into re-establishment and rehabilitation.

"Mitigation, in-kind" or "in-kind mitigation" means to replace wetlands, other critical areas, associated buffers and their functions with substituted critical areas/buffers whose characteristics closely approximate those destroyed or degraded by an allowable use or activity.

"Mitigation, out-of-kind" or "out-of-kind mitigation" means to replace a critical area, associated buffer and their functions with a substitute critical area and buffer whose characteristics do not closely approximate those destroyed or degraded by an allowable use or activity. It does not refer to replacement out-of-category.

"Mitigation, off-site" or "off-site mitigation" means to replace a critical area, buffer and their functions away from the site on which a critical area has been impacted by an allowable use or activity.

"Mitigation, project" means actions necessary to replace project-induced losses to the functions of a critical area, including land acquisition, planning, construction plans, monitoring and contingency actions.

"Mitigation sequencing." Refer to TCC 24.01.037.

"Monitoring" means the collection and analysis of data by various methods for the purposes of understanding and documenting changes in natural ecosystems and features, and includes gathering baseline data, evaluating the impacts of development proposals on the biological, hydrologic and geologic elements of such systems and assessing the performance of required mitigation measures.

"No development zone (NDZ)" means an area extending fifty feet, measured on a horizontal plane, from the outer edge of the high ground water hazard area or extending to a ground elevation two feet (vertically) above the base flood elevation, whichever is less. No development is allowed in the NDZ.

"No net loss" means that permitted uses in critical areas shall be designed and conducted in a manner consistent with WAC 197-11-768 to avoid, minimize and/or mitigate, in so far as practical, any resultant damage to the ecology and environment of the critical area. It may also encompass restoration of ecological functions necessary to sustain critical areas.

The concept of "net" as used herein, recognizes that any development has potential or actual, short-term or long-term impacts and that through application of appropriate development standards and employment of mitigation measures in accordance with the mitigation sequence, those impacts will be addressed in a manner necessary to assure that the end result will not diminish the critical area resources and functions as they currently exist.

"Nonconforming structure" means a building or a portion thereof, which was lawfully erected, altered or maintained prior to the adoption of this chapter, but because of the application of this chapter, does not conform to the provisions of this chapter.

"Nonconforming use" means an activity that was lawfully established prior to the adoption of this chapter, but because of the application of this chapter does not conform to the provisions of this chapter.

"Normal residential appurtenances" means those improvements or structures which are connected to the use and enjoyment of the single-family residence and are located landward of the ordinary high-water mark and includes a garage, deck, driveway and utilities.

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"Noxious weed" means a plant that when established is highly destructive, competitive, or difficult to control by cultural or chemical practices. See "noxious weed control."

"Noxious weed control" means those activities subject to review or action by the Thurston County Noxious Weed Control Board to control noxious weeds. The noxious weed control board is authorized to carry out noxious weed control under Chapter 17.10 RCW, Noxious Weed Control Board Act, and adopts rules and regulations regarding the listing and control of noxious weeds consistent with Chapter 16-750 WAC and Chapter 17.10 RCW.

"Prior converted croplands" please see Section 17.15.200 Definitions—Critical areas, categories and terms, as amended.

"Oak habitat" means stands of Oregon white oak (*Quercus garryana*) or Oregon white oak/conifer associations where canopy coverage of the oak component of the stand is twenty-five percent or more; or where total canopy coverage of the stand is less than twenty-five percent, but oak accounts for at least fifty percent of the canopy coverage. The latter is often referred to as oak savanna. Oak habitat includes oak savannas and oak woodlands.

"Oak savanna" means an oak habitat with a community of widely spaced Oregon white oak trees (*Quercus garryana*) where total canopy coverage is less than twenty-five percent but where Oregon white oak accounts for at least fifty percent of the canopy coverage above a layer of native prairie grasses and forbs. The spacing of these trees is widely scattered so that there is no closed canopy and groups of trees. In degraded habitat, trees may be more widely spaced above a layer of non-native vegetation on developed property.

"Oak woodlands" means those stands of Oregon white oak (*Quercus garryana*) or Oregon white oak/conifer associations where the crown cover of the Oregon white oak component of the stand is greater than or equal to twenty-five percent. In degraded habitat, the Oregon white oak component of the stand may be less than twenty-five percent, or the canopy coverage may be less than fifty percent.

"Open space" means lands which are in a natural or underdeveloped character because they have not been developed with structures, paving or other appurtenances. Open space lands can refer to parks; recreation areas; conservation easements; critical area buffers, and/or critical area tracts.

"Ordinary high water mark" means the mark on all lakes, streams and tidal waters which is found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland; provided, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

"Permanent roof structure for deck or patio" means a legally permitted roof structure that, if enclosed, would create habitable living space in compliance with the Thurston County Building Code. This does not include canvas awnings or free-standing gazebo structures.

"Permitted use." See "use, permitted or allowed."

"Pier" means a structure generally built from the shore extending out over the water to provide moorage for commercial or private recreation water craft or float planes or for water-oriented recreation use. When such a structure is serving ten or more boats it is considered a marina. It may be either anchored and floating or permanently fixed to pilings.

"Pollution prevention plan" means a site-specific plan that addresses the avoidance of unplanned chemical release in the air, water, or land. It is based on deliberate waste management planning, site design, and operational practices.

"Pond" means a naturally existing or artificially created body of standing water less than twenty acres in size and not defined as "Shorelines of the State" by chapter 90.58 RCW (Shoreline Management Act) or as a wetland under this title. Ponds can include reservoirs which exist on a year-round basis and occur in a depression of land or expanded part of a stream, but shall exclude, wholly man-made legally permitted ski lakes, stormwater or agricultural stock ponds within the Nisqually or long-term agricultural districts. A pond is bounded by the ordinary high water mark or the extension of the elevation of the pond's ordinary high water mark within the stream, where the stream enters the pond.

"Prairie" or "westside prairie," means herbaceous, non-forested (forested means greater than or equal to sixty percent forest canopy cover) plant communities that can either take the form of a dry prairie where soils are well-drained or a wet prairie. In parts of the Puget Trough, prairies can sometimes be recognized by mounded topography commonly referred to as Mima Mounds. Mima Mounds are a unique geologic feature of prairie habitat in Thurston County.

"Prairie, dry" means prairies located in areas containing prairie vegetation. Although dry prairie can occur on other soils, typically it occurs on any one of the soils known to be associated with prairie (Table 24.25-6). Locations occurring on mapped prairie soils where the surface is impervious is not considered dry prairie. Certain vegetation characteristics typify dry prairie. These include the occurrence of diagnostic grasses, sedges, and forbs. Mosses, lichens, and bare ground may also be found in the spaces between grass and forbs cover.

The presence of certain diagnostic plants is required to establish an occurrence of dry prairie. In particular, three of the diagnostic grasses, sedges, or forbs (Table 24.25-8) are required to establish the presence of dry prairie.

Shrubs such as black hawthorn (*Crataegus douglasii*), kinnikinnick (*Arctostaphylos uva-ursi*), and oval-leaf viburnum (*Viburnum ellipticum*) can be found at low densities within dry prairies. Some Oregon white oak (*Quercus garryana*) can also be present in native prairie (see Oak Habitat).

Native and nonnative invasive plants typically dominate most remaining prairie. Common invasive species are Scot's broom (*Cytisus scoparius*), colonial bentgrass (*Agrostis tenuis*), common velvetgrass (*Holcus lanatus*), tall oat-grass (*Arrhenatherum elatius*), and Kentucky bluegrass (*Poa pratensis*). Douglas fir is also considered an invasive species with respect to prairie habitat. Other invasive grasses, forbs, and shrubs also may be present.

Marginal or fair condition areas may be dominated by non-native species with several native prairie species present (e.g. from Tables 24.25-7 and 24.25-8) or with a significant cover of native prairie species. Areas dominated by invasive species, such as Scot's broom (non-native shrub), can be restorable to prairie if they have native prairie species in the understory. Such marginal and restorable areas may have significant value if they are large in area, located close to prairies, or in a landscape that connects two or more prairies.

"Prairie, wet" means prairies located in areas containing prairie vegetation. Although wet prairie can occur on other soils, typically it occurs on any one of the soils where the surface topology and the groundwater table approach each other, and where local aquifers are present. Locations occurring on mapped prairie soils where the surface is impervious is not considered wet prairie. Wet prairies in the

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Puget Trough generally are found on glacial outwash soils that typically are limited to swales or low-gradient riparian areas. Three diagnostic grasses, sedges, or forbs from a combination of the wet prairie diagnostic species list (Table 24.25-7) and the dry prairie diagnostic species list (Table 24.25-8) are required to establish the presence of wet prairie.

Areas dominated by invasive species, such as Scot's broom (non-native shrub), can be restorable to prairie if they have native prairie species in the understory.

"Primary association" means the use of a habitat area by a listed or priority species for breeding/spawning, rearing young, nesting, roosting, feeding, foraging, and/or migrating on a frequent and/or regular basis during the appropriate season(s) as well as habitats that are used less frequently/regularly but which provide for essential life cycle functions such as breeding/nesting/spawning.

"Primary structure" means the structure in which the primary use of a given lot is conducted, as distinguished from a secondary or accessory structure.

"Primary use" means the principal or predominant use of any lot, building or structure.

"Priority habitat, state" or "state priority habitat" means a seasonal range or habitat element, so identified by the Washington Department of Fish and Wildlife, with which a given species has a primary association, or habitat types or elements with unique or significant value to a diverse assemblage of species, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. These might include areas of high relative diversity or species richness, breeding habitat, and winter range and movement corridors. These might also include habitats that are of limited availability or high vulnerability to alteration. 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.

A priority habitat may be described by a unique vegetation type or by a dominant plant species that is of primary importance to fish and wildlife (such as oak woodlands or eelgrass meadows or beds). A priority habitat may also be described by a successional stage (such as, old growth and mature forests). Alternatively, a priority habitat may consist of a specific habitat element (such as a consolidated marine/estuarine shoreline, talus slopes, caves, snags) of key value to fish and wildlife. A priority habitat may contain priority and/or non-priority fish and wildlife.

"Priority species, state" or "state priority species" means those species that are so identified by the Washington Department of Wildlife due to their population status and their sensitivity to habitat manipulation. Priority species include those which are state-listed endangered, threatened and sensitive and candidate species; animal aggregations considered vulnerable; vulnerable species of recreational, commercial or tribal importance; as well as other species of concern and game species.

"Priority species conservation area" means the areas containing a documented priority species location and the associated buffer established pursuant to this chapter.

"Project area or boundary" means the geographic limits or the outer extent of the site to be altered or impacted by proposed development.

"Public agency" means any agency, political subdivision or unit of local government of this state including but not limited to municipal corporations, special purpose districts, and local service districts;

any agency of the state of Washington, the United States or any state thereof; or any Indian tribe recognized as such by the federal government.

"Public facilities" means the buildings, streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools or uses of land whether owned or leased, operated by a public agency for such purposes as providing places for public assembly and recreation, operating services of benefit to the public or for the administration of public affairs.

"Public project of significant importance" means a project funded by a public agency, department or jurisdiction which is found to be of compelling interest to the citizens of Thurston County. The Thurston County board of commissioners may only declare a project as such in a resolution after a public hearing.

"Public services" mean fire protection and suppression, law enforcement, public health, education, recreation, environmental protection and other governmental services.

"Public use" means any area, building or structure held, used or controlled exclusively for public purposes by any department or branch of any government, without reference to the ownership of the building or structure or of the land upon which it is situated.

"Public utility" means a business or service, either governmental or having appropriate approval from the state, which is engaged in regularly supplying the public with some commodity or service which is of public consequence and need such as electricity, gas, water, transportation or communications.

"Ravine" means a narrow gorge containing steep slopes and deeper than fifteen vertical feet as measured from the centerline of the ravine to the top of the slope. Refer to Figure 13.

"RCW" means Revised Code of Washington.

"Reclaimed water" means water derived in any part from wastewater with a domestic wastewater component that has been treated for use in beneficial purposes, such as irrigation, industrial processes, landscaping, or aquifer recharge.

"Recreation, active" means leisure-time activities, usually of a formal nature and often performed with others, requiring equipment and taking place at prescribed places, sites, or fields. The term "active recreation" includes, but is not limited to, swimming, tennis, and other court games, baseball, soccer and other field sports, and playground activities.

"Recreation, passive" means low intensity recreation activities which have limited noise and light impacts and are minimally disruptive to the natural environment. For the purposes of this title, "passive recreation" includes, but is not limited to, walking, hiking, canoeing, viewing, nature study, photography, fishing and hunting.

"Recreational vehicle" means a vehicle which is: built on a single chassis, four hundred square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light duty truck; and designed primarily as temporary living quarters for recreational, camping, travel, or seasonal use. Recreational vehicles are not for use as permanent dwellings.

"Reference wetland" means, in the context of compensatory mitigation, a wetland chosen to represent the functions and characteristics that are being created, restored, or enhanced at the "mitigation" site. A reference wetland can be used for monitoring the success of the mitigation project. Reference wetlands, in the context of methods for assessing wetland functions, mean the sites chosen to represent the full range

of functioning in a region or hydrogeomorphic class. Data collected at these sites are used to calibrate the methods.

"Repair and maintenance" means those activities associated with the routine care and upkeep of a structure, development, land use or activity.

"Replacement" or "total replacement" of a structure involves the removal of more than fifty percent of the lineal footage of existing exterior ground floor walls or the cost of repairs exceeds fifty percent of the structure's current market value as determined by an accredited appraisal or the assessor's valuation, at the owner's option. The value shall be determined based the value of the structure either before the repair, maintenance, alternation, or expansion is started, or if the structure has been damaged, and is being restored, before the damage occurred.

"Restoration" means the return of a critical area to a state in which its functions approach its unaltered state as closely as possible.

"Restricted development zone (RDZ)" means an area extending from the outer edge of the no development zone to a ground elevation two feet (vertically) above the base flood elevation.

"Retaining wall" means a wall or structure constructed to hold or prevent the sliding of soil. Such a wall or structure located along the shoreline or the ordinary high water mark is referred to as a "bulkhead."

"Review area" means the area surrounding or adjacent to a point location of a species of concern, or other critical area or buffer in which proposed activities are reviewed to determine what, if any, impacts may occur to the critical area, or what hazard(s) the critical area may pose to the proposed activity. A project located in a review area does not necessarily require submission of any detailed critical area reports. The review area is not a buffer; it allows the approval authority to look beyond the immediate area or proposed impact to assess the project on a larger scale.

"Right-of-way" means an area dedicated to public use for pedestrian and vehicular movement, which may also accommodate public utilities.

"Riparian habitat areas" are areas that include both freshwater and marine riparian habitat areas.

"Riparian habitat areas, freshwater" are areas adjacent to streams containing elements of both aquatic and terrestrial ecosystems that mutually influence each other. The width of these areas extends to that portion of the terrestrial landscape that directly influences the aquatic ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. For the purposes of these regulations, riparian habitat areas are as specified in Chapter 24.25 TCC.

"Riparian habitat areas, marine" means areas adjacent to marine waters containing elements of both marine and terrestrial ecosystems that mutually influence each other. The width of these areas extends to that portion of the terrestrial landscape that directly influences the marine ecosystem by providing shade, fine or large woody material, nutrients, organic and inorganic debris, terrestrial insects, or habitat for riparian-associated wildlife. For the purposes of these regulations, riparian habitat areas are as specified in Chapter 24.25 TCC.

"Riparian management zone" means an area established along the outer boundary of freshwater and marine riparian habitat areas, as specified in this title. Uses and activities within riparian management zones shall be conducted in a manner and/or restricted as necessary to minimize adverse impacts to riparian, freshwater and/or marine habitat.

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"Salmonid" means a member of the fish family salmonidae. In Thurston County these include chinook, coho, chum, sockeye and pink salmon, rainbow, steelhead, cutthroat trout, brown trout, bull trout (char), Brook trout (char), Dolly Varden char, kokanee and whitefish.

"Seismic hazard areas" means the following:

- A. Those areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, surface faulting, settlement or soil liquefaction, such as artificial fill areas, and areas underlain by glaciolacustrine deposits and/or glacial outwash; or
- B. Those areas mapped as having a liquefaction susceptibility of high, moderate to high, or low to moderate on the Liquefaction Susceptibility Map of Thurston County, Washington, published by Washington Department of Natural Resource (September 2004).

"Sewage system" means a system designed to transport, process and/or treat urine, feces, and the water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments or other places. For the purposes of this title, "sewage" is generally synonymous with domestic wastewater.

"Sewage system, on-site" means an integrated system of components located on or nearby the property it serves, that conveys, stores, treats, and/or provides subsurface soil treatment and dispersal of sewage. It consists of a collection system, a treatment component or treatment sequence, and a soil dispersal component. An on-site sewage system also refers to a holding tank sewage system or other system that does not have a soil dispersal component.

"Sewage system, large on-site" means an on-site sewage system as defined in chapter 246-272B WAC as a large on-site sewage system or LOSS. This is an on-site sewage system with design flows of three thousand five hundred gallons per day up to and including one hundred thousand gallons per day.

"Site plan review" means a development review permit described in Chapter 20.37 TCC.

"Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial processing, manufacturing, or wastewater treatment plant, water supply treatment plant, or air pollution control facility, excluding the treated effluent from a wastewater treatment plant.

"Solid waste" means all rotting or decaying (putrescible) and non-rotting or non-decaying (nonputrescible) solid, semisolid, and liquid wastes, including, but not limited to, garbage, rubbish, yard debris, ashes, industrial wastes, contaminated soils, dredge spoils, swill, demolition and construction wastes, abandoned vehicles or parts thereof, wood waste, sludge, dangerous waste, moderate risk waste, recyclable materials, and discarded commodities.

"Special management areas" means those geographic areas of Thurston County which contain a unique combination of physical features and require a special set of management techniques specifically designed for that area, or where the uniqueness of the area demands an even greater degree of environmental protection.

"Species of local importance" means those species that may not be endangered or threatened from a statewide perspective, but are of local concern due to their population status or their sensitivity to habitat manipulation and have been designated as such. Also see "habitats of local importance."

"Species, point location" means generally, but not limited to, an individual occurrence, breeding location, communal roost or marine mammal haul out site for a state priority species.

"Species of concern" includes, but is not limited to, species listed under the federal Endangered Species Act as threatened or endangered, candidate species for federal listing, priority species identified on the WDFW Priority Habitats and Species List, anadromous fish, and species of local importance.

"Stair tower" means a structure twelve feet or taller in height, typically consisting of one or more flights of stairs, usually with landings to pass from one level to another.

"Stairway" means one or more flights of stairs, usually with landings to pass from one level to another.

"Stand (of trees)" means a group of more than three trees in closed-canopy configuration, considered a homogenous unit for management purposes.

"State" means the state of Washington.

"State designated endangered, threatened, and sensitive species" are those fish, wildlife, and plant species native to the state of Washington identified by the state department of fish and wildlife, and the state department of natural resources, 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. 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), as amended. Vulnerable plant species are recorded by the department of natural resources' Natural Heritage Program, per chapter 352-28 WAC, and the state department of fish and wildlife maintains the most current fish and wildlife listings. These agencies should be consulted as necessary for current listing status.

"Steep slope" see the definition for "landslide hazard area."

"Storage tank, hazardous materials" means above- or underground tanks and vaults for the storage of hazardous materials, animal wastes, fertilizers, or hazardous/dangerous waste, as defined in chapter 173-303 WAC.

"Storage tank, nonhazardous materials" means above- or underground tanks and vaults for the storage of materials not referenced in "storage tank, hazardous materials."

"Stormwater" means water originating from rainfall and other precipitation that is found in drainage facilities, rivers, streams, springs, seeps, ponds, lakes, and wetlands as well as shallow ground water.

"Stormwater, private retention/detention facility" means a type of drainage facility designed either to hold water for a considerable length of time and then release it by evaporation, plant transpiration and/or infiltration into the ground; or to hold runoff for a short period of time and then release it to the surface and stormwater management system.

"Stormwater, regional retention/detention facility" means a surface water control structure constructed by Thurston County to correct excess surface water runoff problems of a basin or sub-basin. The area downstream of the facility must have been identified by the director of the water and waste management department previously as having significant, regional basin flooding and/or water quality problems. The facility must be listed as a Thurston County capital improvement project.

"Stormwater, temporary sediment control pond" means a pond used to improve water quality by allowing sediments to settle out of stormwater prior to discharge to a stream, wetland or other conveyance.

"Stream segment" means that portion of a stream which lies between road crossings of a public right-of-way.

"Streams" means those areas of Thurston County where surface waters flow sufficiently to produce a defined channel or bed. A "defined channel or bed" is an area which demonstrates clear evidence of the passage of water and includes but is not limited to bedrock channels, gravel beds, sand and silt beds and defined-channel swales. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses unless they are used by salmon or used to convey streams naturally occurring prior to construction.

"Stream and water body types" means as follows:

1. Type S waters include all aquatic areas inventoried as "shorelines of the state," in accordance with Chapter 90.58 RCW, including segments of streams where the mean annual flow is more than twenty cubic feet per second, marine shorelines and lakes twenty acres in size or greater.
2. Type F waters include all segments of aquatic areas that are not type S waters and that contain fish or fish habitat including waters diverted for use by a federal, state or tribal fish hatchery from the point of diversion for one thousand five-hundred feet or the entire tributary if the tributary is highly significant for protection of downstream water quality.
3. Type N waters include all segments of aquatic areas that are not type S or F waters and that are physically connected by an above-ground channel system, stream or wetland to type S or F waters.

"Structural mitigation plan" means a design for any site structures or building engineering submitted specifically to mitigate the influence of a landslide. An engineer licensed to practice in the State of Washington shall prepare the plan. Said engineer will be designated the design professional in responsible charge as per International Building Code 106.3.4. The design professional in responsible charge shall conduct special inspections and provide written reports to the building official on the installation of those engineered elements.

"Structure" means that which is built or constructed. The term "structure" shall be construed as though followed by the words "or parts thereof."

"Structure, threatened" means a structure to be protected from streambank, slope or bluff erosion and where through a geotechnical report it has been determined that the documented erosion rates over the past thirty—fifty years show that a structure will be harmed within a three-year timeframe. An additional hazard assessment process by the geotechnical expert may be included to ensure that the structure is not exposed to landslide hazards potentially not captured in the erosion rate methodology. If the erosion rate and additional hazard assessment suggest that harm will likely occur to the structure within a three-year timeframe then the property is deemed "threatened."

"Structures to be protected" means structures considered for protection from erosion or failing slopes, including: primary parcel structures (includes commercial, industrial or residential), accessory dwelling units, septic systems, public roads, public infrastructure such as pipes or utilities, and private driveways/roads where relocation is not feasible. Structures not protected are: stairs, trails to the beach, bathhouses, detached deck/patios, fences, sheds, trees, landscaping, and any structures threatened by self-created hardship.

"Submerged lands" means those areas below the ordinary high-water mark of marine waters or rivers and which are defined as a "shoreline of the state" by Chapter 90.58 RCW (Shoreline Management Act).

"Substantial development permit" or "shoreline substantial development permit" means a permit issued subject to the provisions of the Shoreline Master Program for the Thurston Region, as amended, and Chapter 19.04.

"Sub-watershed" means the areas within a watershed draining to one or more major tributaries of the mainstem stream, such as the Deschutes or Nisqually River.

"TCC" means Thurston County Code.

"Thermobaric" means deeper, older waters stored at depth. They are warmer and higher in dissolved solids due to longer water-rock contact times and geothermal gradient.

"Title" means the "Thurston County Critical Areas Ordinance" unless otherwise specified in the text.

"Toe of slope" means a distinct topographic break in slope at the lower-most limit of the landslide or marine bluff hazard area. The following areas qualify as toe of slope:

A. A distinct topographic break in slope which separates slopes inclined less than forty percent from slopes equal to or greater than forty percent. Where no distinct break exists, this point shall be the lower most limit of the area where the ground surface drops ten feet or more vertically within a horizontal distance of twenty-five feet;

B. A distinct topographic break in slope which separates slopes inclined less than fifteen percent from slopes equal to fifteen to thirty-nine percent, when the slope also meets the criteria found in subsection (A) of the landslide hazard area definition in this chapter; or

C. For marine bluffs, the toe means the ordinary high water mark except where there has been a landslide of upland materials which now rests on the beach. In this case, the toe shall be the point on the undisturbed slope which would be defined as the ordinary high water mark if not for the landslide.

D. A distinct topographic break in slope, as determined by the geotechnical assessment.

"Top of slope" means a distinct topographic break in slope at the upper most limit of the landslide or marine bluff hazard area. The following areas qualify as top of slope:

A. A distinct topographic break in slope which separates slopes inclined less than forty percent from slopes equal to or greater than forty percent. Where no distinct break exists, this point shall be the upper most limit of the area where the ground surface drops ten feet or more vertically within a horizontal distance of twenty-five feet;

B. A distinct topographic break in slope which separates slopes inclined less than fifteen percent from slopes equal to fifteen to thirty-nine percent, when the slope also meets the criteria found in subsection (A) of the landslide hazard area definition in this chapter; or

C. A distinct topographic break in slope, as determined by the geotechnical assessment.

"Underground injection well, Class II" means a well used to inject fluids:

A. Brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production. It may be mixed with wastewaters from gas plants that are an integral part of production operations, unless those waters are classified as hazardous wastes at the time of injection;

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- B. For enhanced recovery of oil or natural gas; or
- C. For storage of hydrocarbons that are liquid at standard temperature and pressure. Reference Chapter 173-218 WAC, as amended.

"Unstable (U)" means slopes that are generally steep and considered unstable because the geology, groundwater, or wave erosion factors are critical and/or the slopes show evidence of present or past landsliding. Unstable areas include landslides and talus too small or obscure to be individually mapped (Source: Coastal Zone Atlas of Washington, Volume 8 Thurston County (1980)).

"Unstable old slide (Uos)" means post-glacial but prehistoric landslide areas (Source: Coastal Zone Atlas of Washington, Volume 8 Thurston County (1980)).

"Unstable recent landslide (Urs)" means recent or historically active landslide areas. [Note that Urs designation is based on investigations carried out in the late 1970s; subsequent landsliding is not reflected on the Coastal Zone Atlas maps] (Source: Coastal Zone Atlas of Washington, Volume 8 Thurston County (1980)).

"Use area" means the portion of property physically occupied or used by the land use activity.

"Use, permitted or allowed" means any authorized use allowed alone or in conjunction with other uses by this title in a specified critical area or its buffer and subject to the regulations of the specified critical area or its buffer. Nothing in this definition shall be construed to relieve any person of the obligation to obtain other permits required by other applicable regulations or laws.

"Utilities" means enterprises or facilities serving the public by means of an integrated system of collection, transmission, distribution, and processing facilities through more or less permanent physical connections between the plant of the serving entity and the premises of the customer. Included are systems for the delivery of natural gas, electricity, telecommunications services, and water and for the disposal of sewage.

"Utility" means water, electric and natural gas distribution, sewer and stormwater collection, cable communications, telephone utility, and related activities.

"Utility corridor" means rights-of-way or easements for utility lines on either publicly or privately owned property.

"Utility line" means pipe, conduit, cable, or other similar facility by which services are conveyed to the public or individual recipients. Such services shall include but are not limited to water supply, electric power, gas, communications, and sanitary sewers.

"Vadose zone" means the zone between land surface and the capillary fringe within which the moisture content is less than saturation and pressure is less than atmospheric. Soil pore spaces also typically contain air or other gases. The capillary fringe is not included in the unsaturated zone.

"Vegetation, hydrophytic" or "hydrophytic vegetation" means macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. The presence of hydrophytic vegetation shall be determined following the methods described in the Corps of Engineers Wetlands Delineation Manual (1987) with "Washington Regional Guidance on the 1987 Wetland Delineation Manual" (1994).

"Vegetation management-aquatic weeds" means the removal or control of submerged or floating-leaved plants in lakes, ponds or rivers which are regulated by any state agency, including but not limited to: aquatic herbicide applications regulated under Chapter 90.48 RCW (Chapter 173-201 WAC, Short-Term Modifications to Water Quality Standards); mechanical or physical control measures such as mechanical harvesting or bottom barriers regulated under the Hydraulic Code (RCW 77.55.100 and 77.55.110); grass carp planting regulated under Chapter 232-12 WAC; and dredging or other; mechanical means of removing aquatic plants regulated under Chapter 90.58 RCW (Shoreline Master Act), the Shoreline Master Program, as amended, and other regulations.

"Vegetated filter strip" means a section of vegetation, typically thirty—fifty feet in width, that contains plants that form a rough surface capable of filtering sediment, pollutants, and nutrients.

"Vegetation, native" or "native vegetative" means vegetation or plant species which are indigenous to the area or habitat in question.

"Volcanic hazard areas" means those areas subject to pyroclastic flows, lava flows and inundation by debris flows, mud flows or related flooding resulting from geologic or volcanic events of Mount Rainier, as mapped by United States Geological Survey Open File Report 98-428. The boundaries on these maps are approximately located, and areas outside of the boundaries should not be regarded as hazard-free.

"Volume equivalent" means the number of unit volumes of sewage that will be discharged to the ground from on-site sewage systems per day, where a unit volume of sewage is the daily flow of sewage from a single-family residence or mobile home park site. A volume equivalent is equal to four hundred fifty gallons of sewage per day for other types of development

"Wellhead protection area, designated" means the surface and subsurface area surrounding a water well or well field, through which contaminants are reasonably likely to move toward and reach such well or well field within one, five and ten years, respectively. Wellhead protection areas are critical aquifer recharge areas, and subject to the requirements of this title. For Group A water systems, the wellhead protection area shall be the wellhead protection area identified in the approved water system plan, prepared according to the requirements of chapter 246-290 WAC, or an equivalent area accepted by the health officer. For Group B (3-14 service connections) and smaller water systems, the wellhead protection area shall be the well sanitary control area or other designated area approved by the health officer.

"WAC" means Washington Administrative Code.

"Water body types." See "stream and water body types."

"Wetland" or "wetlands" means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, and other areas meeting the definition of wetland under RCW 36.70A.030, as amended. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas in order to mitigate conversion of natural wetlands. Areas below the ordinary high water mark (OHWM) of a water body, including but not limited to marine waters, lakes, ponds, streams, and rivers, may also qualify as wetlands if they meet the criteria of the 1987 U.S. Army Corps of Engineers

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Wetlands Delineation Manual and the 2008 Interim Regional Supplement to the Corps of Engineers
Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.

"Wetland edge" or "wetland boundary" means the line delineating the outer edge of a wetland established consistent with the provisions of this title.

"Wetland Rating System for Western Washington" means the most recently approved version of the Washington State Department of Ecology's Wetland Rating System for Western Washington.

"Wetland specialist" or "wetland scientist" means a person with experience and training in wetland issues and with experience in performing delineations, analyzing wetland functions and values, analyzing wetland impacts, and recommending wetland mitigation and restoration. Qualifications include: (1) Bachelor of Science or Bachelor of Arts or equivalent degree in biology, botany, environmental studies, fisheries, soil science, wildlife, agriculture, or related field, and two years of related work experience, including a minimum of one year experience delineating wetlands using Army Corps of Engineers methodology and preparing wetland reports and mitigation plans. Additional education may substitute for one year of related work experience; or (2) four years of related work experience and training, with a minimum of two years experience delineating wetlands using the Unified Federal Manual and preparing wetland reports and mitigation plans. The person should be familiar with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, Corps of Engineers Wetlands Delineation Manual 1987 edition and corresponding guidance letters, March 1997 Washington State Wetlands Identification and Delineation Manual, Washington State Wetlands Rating System for Western Washington, as amended.

"Wildlife blind" means a structure no larger than fifty square feet used for the observation or hunting of wildlife.

"Wood products preserving and treating" means the application of chemicals to wood products to increase their durability and resistance to destruction by insects, fungus and/or decay. This shall not include typical residential applications.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14785, § 1, 8-28-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

3. Administrative Procedures (24.05 TCC)

24.05.005 General purposes.

It is the policy of Thurston County to accomplish the following:

- A. To review developments which lie within a critical area, which includes its buffer;
- B. To minimize the delays associated with multiple development reviews; and
- C. To assist property owners in developing their property consistent with this title by promoting the use of innovative land use techniques to protect critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.05.010 Application types and classification.

[Not incorporated]

24.05.020 Application review procedures and public notice requirements.

[Not incorporated]

24.05.022 Third party review.

- A. The purposes of third party review are to protect critical areas, maintain public safety, protect public health and property, and to ensure that the nature and extent of critical areas and any associated buffers are correctly determined.
- B. The county shall attempt to resolve any issues with the original author(s) or applicant before requiring third party review.
- C. The approval authority may, at the applicant's expense, require a third party review of any submission if there is reason to determine that:
1. The submission contains factual errors, omissions, or incomplete analysis; or
 2. Inconsistencies exist between the submitted materials and observable data, and/or accepted scientific or technical criteria; or
 3. The submission contains faulty analysis, faulty analytical procedures, substantive differences of interpretation of submitted data or analysis, or other findings made through the review of the proposal that support commissioning third party review; or
 4. Specialized expertise is required for adequate review of a proposal.
- D. The approval authority shall select the third party reviewer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.05.025 Critical area approval authority and review processes.

[Not incorporated]

24.05.027 Critical area review process.

The sequence of review related to critical areas and associated buffers generally is as follows:

- A. **County Site Visit.** When a critical area screening tool or other source of information indicate the possible presence of a critical area or associated buffer on a subject property, the director shall visit the site to verify what critical areas or associated buffers may exist on site. Depending on the type of critical area being evaluated, the size of the parcel, the nature of surrounding development, and the level of degradation or development already existing on site, the director may be able to determine that no jurisdictional critical area exists on the subject property, or that the proposed activity will not impact the functions of any critical areas or associated buffers on site.
- B. **Professional Survey.** If the director determines that a critical area may exist, or are unsure of the nature or condition of a critical area on site, the applicant may be required by the county to hire a professional to determine the nature and extent of critical areas and associated buffers on the property. Critical area buffer requirements are specified in each individual critical area chapter of this title. Specific

requirements for special reports, and criteria for determining who is qualified to prepare them, are located in Chapter 24.35 TCC.

C. **Critical Area Report.** The director, upon review of a critical area delineation or survey, may require the applicant to submit a critical area report that outlines what impacts will occur and how any impacts will be mitigated. The critical area report must demonstrate that impacts are unavoidable, pursuant to TCC 24.01.037 and 24.35.015. Critical area reports that pertain to important habitats and species may also be referred to as habitat management plans.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.05.030 Coordination with other application reviews.

[Not incorporated]

Table 24.05-1. Critical Area Review Authority and Review Processes

[Not incorporated]

24.05.040 Presubmission conference.

[Not incorporated]

24.05.050 Appeals.

[Not incorporated]

24.05.060 Code interpretations.

Any person may request in writing an interpretation of any provision of this title. The department shall issue a written determination to the person requesting the interpretation in accordance with Type I procedures in TCC 20.60.020(1). The letter of request shall serve as the Type I application for code interpretations. A fee may be assessed for code interpretations consistent with TCC 24.05.110.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.05.070 Critical area determinations.

- A. **Determining if Critical Areas are Present.** Any person seeking to determine whether a proposed activity or an area is subject to this chapter may request a Critical Area Determination (CAD) on an application provided by the department.
- B. The CAD shall be processed as a Type I application.
- C. **Submission Requirements.** Applicants for a CAD shall submit all of the information requested on the application form provided by the department. Based on the quality and detail of information provided, the complexity of the site, or the potential of the proposed use to impact critical areas or buffers, the approval authority may request additional information as necessary to make a determination regarding the site.
- D. **Director Findings.** The director shall review the information submitted by the applicant and other relevant, available information and perform an on-site inspection to determine if a critical area, which includes the associated buffer, is located on the property. If the director cannot determine, based on available information or due to access limitations, whether the proposed development would encroach upon a critical area, the applicant shall be advised as to what is needed to make the determination. This

may include full delineation and analysis of the critical area by a qualified professional at the applicant's expense.

E. The critical area determination shall be valid for three years.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15901, § 2(Att. A), 6-2-2020)

24.05.080 Submittal requirements—Critical area review permit.

[Not incorporated]

24.05.090 Submittal requirements—Reasonable use exception.

[Not incorporated]

24.05.100 Recordation—Critical areas on property—Notice.

For a development proposal that does not involve the division of land where critical areas have been identified, the owner of a lot with a critical area and/or buffer shall record a notice and map on the title with the Thurston County Auditor that identifies the critical area location. This notice and map is not required if a preexisting notice has already been recorded that identifies the critical area in the same location. The applicant shall submit proof that any required notice and map have been filed for recording as a prerequisite to permit approval. The notice and map shall be approved by the director prior to recordation, and, shall at a minimum, include a map and legal description of the critical area, and a notice substantially similar to the following:

"Prior to and during the course of any grading, building construction or other development activity on this property containing or abutting a critical area, the area of development activity must be fenced or otherwise marked to the satisfaction of Thurston County. The critical area shall be maintained in its existing condition, except as provided for by Title 24 of the Thurston County Code, the Critical Areas Ordinance. Yard waste, debris, fill, equipment, vehicles, and materials shall not be placed in the critical area."

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.05.110 Fees.

Applicants for permits or other approvals pursuant to this title shall pay applicable fee identified on the county fee schedule.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

4. Critical Aquifer Recharge Areas (Chapter 24.10 TCC)

24.10.005 Purposes.

The purposes of this section are to:

A. Protect the public health and welfare by safeguarding critical aquifer recharge areas (CARA) and vital groundwater resources that serve as the county's primary potable water source. This includes avoiding or, where that is not possible, minimizing the risks of ground water contamination from new, existing, expanded and altered land uses and activities, consistent with state water quality standards.

B. Identify and protect aquifer recharge areas and vital groundwater resources based on their physical susceptibility to contamination, the potential for contamination from existing and allowed uses, the number of people or uses that rely on the aquifer as a potable water source, the presence of wellhead protection areas and whether there is an alternative water source.

C. Recognize and maintain the delicate balance and connection between surface water and ground water in order to preserve essential biological, physical, and geochemical functions. This includes avoidance of saltwater intrusion, avoidance of pumping deep saline thermobaric water that could contaminate the upper aquifer(s), avoidance of groundwater withdrawals and interruptions that would diminish stream flows and temperatures sustaining anadromous fish or alter the quantity and timing of water sustaining wetlands and associated plants and wildlife.

D. Ensure sufficient infiltration of water at the land's surface to sustain aquifers used as a potable water source, to maintain base flows in streams supporting anadromous fish, and maintain water levels in wetlands.

E. Be consistent with RCW 36.70A.170 and 36.70A.172; public water systems penalties and compliance, Chapters 70-119A RCW; Washington State Wellhead Protection Program and the Public Water Supplies, Chapter 246-290 WAC; dangerous waste regulations, Chapter 173-303 WAC; the Water Quality Standards for Groundwater of the State of Washington, Chapter 173-200 WAC; Articles III, IV, and VI of the Thurston County Sanitary Code; County adopted water resource inventory area watershed management plans; and County adopted water system plans and wellhead protection plans.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.010 Applicability.

This chapter applies to proposals for new development and alteration and expansion of existing uses listed in Table 24.10-1 that are located in an area defined as a critical aquifer recharge area in this title. These regulations also apply to the one-, five- and ten-year time of travel zones of wellhead protection areas meeting the criteria in this chapter. See the map entitled "wellhead protection areas." These maps shall be on file at the Thurston County Resource Stewardship Department.

A. "Category I, extreme aquifer sensitivity" includes:

1. Those areas which provide very rapid recharge with little protection, contain coarse soil textures and soil materials, and are derived from glacial outwash materials. The predominant soil series and types are those listed as Category I in Table 24.10-4 at the end of this chapter; and
2. Wellhead protection areas as defined by Chapter 24.03 TCC, including their one-, five-, and ten-year time of travel zones.
3. Aquifers in subsurface geologic formations that are extremely vulnerable to contamination, as listed in Table 24.10-3 at the end of this chapter.

B. "Category II, high aquifer sensitivity" includes:

1. Those areas which provide slightly lower recharge, also provide little protection, and contain materials from glacial deposit. The predominant soil series and types are those listed as Category II in Table 24.10-4 at the end of this chapter.

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2. Aquifers in subsurface geologic formations that are highly vulnerable to contamination, as listed in Table 24.10-3 at the end of this chapter.

C. "Category III, moderate aquifer sensitivity" includes:

1. Those areas with aquifers present but which have a surface soil material that encourages run-off and slows water entry into the ground. The predominant soil series and types are those listed as Category III Table 24.10-4 at the end of this chapter.

2. Aquifers in subsurface geologic formations that are moderately vulnerable to contamination, as listed in Table 24.10-3 at the end of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.020 Standards and restricted and prohibited uses.

Table 24.10-1 identifies the new, expanded, and altered land uses and activities that are restricted or prohibited in the CARA depicted on the critical aquifer recharge areas map. These restricted and prohibited uses and activities are subject to the applicable standards in TCC 24.10.030-250 and all other applicable regulations. (See Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies; Article IV, Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage; and Article VI, Rules and Regulations of the Thurston County Board of Health Governing Nonpoint Pollution).

The general standards listed in TCC 24.10.030 apply to all uses in Table 24.10-1. Standards provided in TCC 24.10.040-250 apply to specific uses in CARAs, and are in addition to other requirements of this title. Table 24.10-1 contains the primary section references for each activity covered by this chapter.

Table 24.10-1. Prohibited and Restricted Uses and Activities Within Critical Aquifer Recharge Areas

RESTRICTED USES AND ACTIVITIES	AQUIFER RECHARGE AREA CATEGORY				
	I			II	III
	Wellhead Protection Areas		Other CARA I		
	1-year time of travel zone	5- and 10-year time of travel zones			
Abandoned wells (decommissioning of wells) (TCC 24.10.040)	A	A	A	A	A
Asphalt plants/cement and concrete plants (TCC 24.10.070)	X	X	X	P	P
Boat refinishing	P	P	P	P	P
Cemeteries (TCC 24.10.090)	X	P	P	P	P

Chemical manufacturing/processing, mixing and remanufacturing (TCC 24.10.100)	X	X	X	P	P
Chemical storage facilities (not including fuel) (TCC 24.10.100)	X	P	P	P	P
Chemical/hazardous waste reprocessing and disposal (TCC 24.10.100; 140)	X	X	X	X	X
Commercial uses that do not use hazardous materials or generate hazardous waste	P	P	P	P	P
Commercial uses that use or generate less than two hundred twenty pounds of hazardous waste or materials per month as described in WAC 173-303; including but not limited to; furniture staining, furniture stripping, repair, and refinishing; hardware, lumber, and parts stores; medical/dental/veterinary offices; photo processing/printing; printing and publishing (TCC 24.10.100)	X/P	P	P	P	P
Commercial uses that use or generate more than two hundred twenty pounds of hazardous waste or materials per month as described in WAC 173-303; including but not limited to; furniture staining, furniture stripping, repair, and refinishing; hardware, lumber, and parts stores; medical/dental/veterinary offices; photo processing/printing; printing and publishing (TCC 24.10.100)	X	X	X	P	P
Composting facilities, except home composting (TCC 24.10.103)	X	P	P	P	P
Dry cleaner facilities (TCC 24.10.105)	X	X	X	P	P
Electroplating, metal plating (TCC 24.10.145)	X	X	X	P	P
Fuel dispensing, including gas stations (TCC 24.10.110)	X	P	P	P	P
Funeral facilities (except crematory facilities) (TCC 24.10.100)	X	X	X	P	P

Golf courses, parks, athletic fields, playgrounds Campgrounds/RV Parks/landscaping more than one acre (TCC 24.10.130)	P	P	P	P	P
Greenhouse - commercial/nursery - wholesale/retail (TCC 24.10.135)	X	P	P	P	P
(New) hazardous waste transfer and storage facilities including radioactive wastes as defined in Chapter 43.200 RCW (TCC 24.10.100; 140)	X	X	X	P	P
Industrial uses that do not use hazardous materials or generate hazardous waste (TCC 24.10.100)	P	P	P	P	P
Industrial uses - other, including but not limited to battery processing, reprocessing, and storage, food processing facilities, tanning, textile dyeing, wood/pulp/paper processing, and metal finishing which generate less than two hundred twenty pounds of hazardous waste per month as described in WAC 173-303 (TCC 24.10.100)	X	P	P	P	P
Industrial uses - other, including but not limited to battery processing, reprocessing, and storage, food processing facilities, tanning, textile dyeing, wood/pulp/paper processing, and metal finishing which generate more than two hundred twenty pounds of hazardous waste per month as described in WAC 173-303 (TCC 24.10.100)	X	X	X	P	P
Infiltration of reclaimed water (application to the land's surface above agronomic rates) *Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the	X*	X*	X*	X*	X*

requirements of the Growth Management Act (Chapter 36.70A RCW). (TCC 24.10.190)					
Injection wells-Class II (Chapter 173-218 WAC)	X	X	X	X	X
Kennels -with more than ten animals (TCC 24.10.100)	P	P	P	P	P
Land spreading irrigation with reclaimed water at agronomic rates (TCC 24.10.190)	A	A	A	A	A
Landfill—demolition (inert), municipal sanitary waste, solid waste, wood waste, hazardous waste (TCC 24.10.100)	X	X	X	X	X
Machine shops, fabricating, metal processing with etchers and chemicals (TCC 24.10.100)	X	P	P	P	P
Maintenance/fueling facilities - municipal, county, state, school district, transit, airports, railroads, buses (TCC 24.10.110, 230)	X	P	P	P	P
Manufacturing-electrical/electronic (TCC 24.10.100)	X	P	P	P	P
Mining-coal and minerals	X	P	P	P	P
Mining—gravel and sand (TCC 24.10.150)	X	X	P	P	P
Pesticide/fertilizer storage facilities (TCC 24.10.100; 140)	X	P	P	P	P
Petroleum products refining and reprocessing (TCC 24.10.100)	X	X	X	P	P
Pier foundations (TCC 24.10.170)	P	P	P	P	P
Pipelines- liquid petroleum products or other hazardous liquid transmission (TCC 24.10.180)	X	P	P	P	P
Railroad yards-cargo transfer areas (TCC 24.10.100)	X	P	P	P	P
Research laboratories/facilities-chemical or biological (TCC 24.10.100)	X	P	P	P	P

Residential use/subdivisions, short plats, and large lots (TCC 24.10.195)	P	P	P	P	P
Sawmills (TCC 24.10.200)	P	P	P	P	P
Sewage disposal - on-site (TCC 24.10.160)	P	P	P	P	P
Sewage disposal, large on-site (LOSS Chapter 246-272B WAC)	X	P	P	P	P
Sewage lift stations (TCC 24.10.100)	X	P	P	P	P
Solid waste processing/handling/transferring/recycling (TCC 24.10.205)	X	P	P	P	P
Storage tanks-above ground (hazardous materials) (TCC 24.10.050)	X	P	P	P	P
Storage tanks-underground (hazardous materials) (TCC 24.10.220)	X	P	P	P	P
Storage tanks, residential (e.g. propane and oil tanks not to exceed one thousand gallons) (TCC 24.10.195)	P	P	P	P	P
Stormwater facilities/discharges, not including injection wells (TCC 24.10.210)	P	P	P	P	P
Taxidermy (TCC 24.10.100)	P	P	P	P	P
Unattended gas powered portable generators (TCC 24.10.120)	P	P	P	P	P
Utility substations (TCC 24.10.100)	P	P	P	P	P
Vehicle wrecking/junk/scrap/salvage yards (TCC 24.10.240)	X	P	P	P	P
Vehicle and boat repair/service garages/body shops (TCC 24.10.230)	X	P	P	P	P
Wastewater treatment or reuse facilities/recycling satellite plant, not including injection/infiltration of reclaimed water (TCC 24.10.100)	X	P	P	P	P
Wood and wood products preserving/treating (TCC 24.10.250)	X	X	X	X	X

All other activities involving the use and handling of hazardous materials or generating hazardous materials by their activities or actions in quantities exceeding the thresholds listed in TCC 24.10.140.	X	X	X	P	P
Other new and existing uses identified by the County as posing a risk to ground water quality	P	P	P	P	P

LEGEND:

A = Allowed without a critical area permit, subject to requirements of this title

P = Permitted, subject to critical area permit and requirements of this title

X = Prohibited

X/P = As determined by the approval authority, small scale uses or those using nonhazardous materials may be permitted when the quantity, nature of materials processed and mitigation methods are determined to contain no significant risk to groundwater.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.030 General standards.

The following requirements apply, as applicable, to all uses and activities in Table 24.10-1 that are not prohibited.

A. Differences in regulations because of the overlap of two or more critical areas are governed by Chapter 24.01 TCC.

B. The approval authority, in consultation with a qualified hydrogeologist, shall evaluate hydrogeological reports required pursuant to this chapter to determine the proposed project's potential impacts to ground water and surface water. This evaluation shall include, if applicable, evaluation of the project's potential impact on base flows of streams regulated under Chapter 24.25 TCC, and the quantity and timing of ground water flows sustaining wetlands regulated under Chapter 24.30 TCC.

C. The uses and activities listed in Table 24.10-1 shall not be allowed in a CARA if the approval authority determines, in consultation with others having expertise or jurisdiction, that the proposed use poses a risk to ground water quality, consistent with the provisions of this chapter.

D. Best Management Practices. If warranted to protect ground water, the approval authority shall require applicants for new, expanded and altered uses listed in Table 24.10-1 that require a county permit to use best management practices (BMPs), including all known, available, reasonable treatments, to ensure the highest degree of aquifer protection. In this case, the applicant shall submit a report identifying the appropriate BMPs and describing how they will be employed to prevent degradation of ground water quality. The report shall be prepared by or under the direction of a qualified person with demonstrated expertise in the industry or field. The report shall include all necessary technical data, drawings, calculations, and other information to describe the proposed application of BMPs. If necessary, the approval authority will review the report with technical experts at the applicant's expense.

E. Mitigation of Impacts.

1. The approval authority may condition the approval of a proposed use or activity if it is determined to be warranted in order to protect ground water quality, maintain stream flows and temperatures sufficient to sustain anadromous and native fish, and maintain the volume and timing of ground water flows sustaining wetlands and dependent plants and wildlife (see Chapters 24.25 and 24.30 TCC).

2. The approval authority may deny proposed wells or require mitigative measures (e.g., methods of prevention and control) for any use as necessary to preserve adequate ground water quality and quantity for existing users of the aquifer that do not have an alternative water source, particularly in areas subject to saltwater intrusion. This subsection shall not affect any right to use or appropriate water under state or federal law.

F. New Uses in Category I CARA. Applicants for uses proposed to be located within a Category I CARA that involve use, storage, handling or disposal of hazardous materials in excess of the quantity thresholds listed in TCC 24.10.140 shall submit to the County a BMP report, consistent with subsection (D) above, documenting that BMPs will be used to prevent ground water degradation.

The approval authority, in consultation with the water purveyor serving the area and, if necessary, a third party consultant at the applicant's expense, will review the report to determine whether the proposed activity can be conducted without degrading the water quality of the affected aquifer. The county shall provide the applicant with a cost estimate and obtain their approval prior to consulting with the third party consultant. The application shall be closed if the applicant chooses not to bear the cost of the evaluation. The approval authority may approve, condition, or deny the project as they deem warranted in order to ensure adequate ground water protection. The applicant shall implement the approved report.

G. Existing Uses in Category I CARA. The approval authority may require the owner of any existing use within a Category I CARA which involves the use, storage, handling or disposal of hazardous materials above the minimum quantity thresholds listed in TCC 24.10.140 to submit a hazardous materials management plan (see TCC 24.35.045) that will ensure adequate protection of ground water. The approval authority, in consultation with the appropriate water purveyor and, if warranted, others with expertise, shall review this plan and determine whether to approve the plan as proposed or approve it subject to conditions in order to ensure adequate ground water protection.

H. Decommissioning Underground Tanks. Underground storage tanks storing hazardous materials in the one-year time of travel zone for Category I CARA that do not meet current state and county standards (see Chapter 173-360 WAC, Chapter 14.32 TCC, International Fire Code, and TCC 24.10.220) shall be decommissioned or removed consistent with applicable regulations within one year of being notified by the approval authority, unless specified otherwise.

I. Expansion of Prohibited Uses in CARAs.

1. Uses prohibited by Table 24.10-1 in Category I-III CARA shall not be expanded unless the applicant demonstrates that all equipment/facilities involving hazardous materials will be brought into compliance with current standards and therefore pose less risk of ground water contamination than the existing use.

2. Applicants for any proposed expansion of an existing use in Category I CARA that is listed as an allowable use in Table 24.10-1 under Category I which uses, stores, handles or disposes of hazardous materials above the minimum quantities referenced in TCC 24.10.140 shall submit a BMP report,

consistent with subsection (D) above, for county review and approval, and a hazardous materials management plan consistent with TCC 24.35.045. The approval authority will review the submitted materials and determine whether the proposed expansion shall be approved, denied, or approved with conditions as necessary to ensure adequate ground water protection.

J. A development proposal will be considered unacceptable if a hydrogeological report indicates that a ground water maximum contaminant level will be violated due to proposed development.

K. A development proposal will be considered unacceptable if a hydrogeological report concludes that it will reduce the assimilative capacity of the aquifer by more than ten percent for a contaminant of concern.

L. Known spills, leakage, or other release of hazardous materials shall be remediated as determined by the approval authority. Unless otherwise specified, remediation activities shall begin within ninety days of discovery of release.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.040 Abandoned wells.

Wells that cease to be used as a water source or are used, unmaintained, or in such disrepair as to be unusable shall be decommissioned, consistent with WAC 173-160 and Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies, to prevent ground water contamination and remove any public safety hazards.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.050 Above ground tanks and distribution systems.

Above ground tanks and associated distribution systems for the storage or conveyance of hazardous materials, sewage sludge, fertilizers, or other chemical or biological substances defined as hazardous or dangerous waste in Chapter 173-303 WAC are subject to the following:

A. **Compliance with State and County Requirements.** New above ground tanks and distribution systems must comply with Chapters 173-303 WAC and 173-360 WAC, Chapter 14.32 TCC, International Fire Code, and Article VI of the Rules and Regulations of the Thurston County Board of Health Governing Nonpoint Source Pollution.

B. **Secondary Containment.** New above ground tanks and distribution systems that will contain a hazardous material shall either be double walled or have a separate, impervious secondary containment system constructed around and under the tank/distribution system. The containment system shall be covered or otherwise designed so it does not collect precipitation or stormwater runoff. Secondary containment systems shall be sized to hold at least one hundred ten percent of the largest tank's capacity and shall be designed and constructed with materials that are compatible with the substance to be stored in the tank.

C. **Leak Detection.** Leak detection devices shall be required for all double walled tanks and, when possible, for other tanks.

D. **Waiver.** The approval authority may grant a waiver from one or more of the above requirements upon finding that the proposed above ground storage facility would not create a risk to ground water quality.

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E. Residential above ground storage tanks and vaults are regulated by the International Fire Code.
(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.070 Asphalt plants/concrete plants.

A. Applicants for asphalt plants or concrete plants shall submit, in addition to other material required by this chapter, the following: the location of wells and wellhead protection areas within one mile down gradient of the proposed site or the two-day time of travel, if known, whichever is greater; and a characterization of the proposed activity including a description of the industrial process, storage of materials, and discharge of water.

B. All process water from production, pouring, and equipment cleaning activities shall be discharged to a sump or a recycling system. Process water treatment or materials shall use the least toxic products and raw materials available.

C. The applicant shall submit a hazardous waste management plan consistent with TCC 24.35.045.

D. The approval authority may require monitoring wells to the extent necessary to determine if pollution associated with the permitted activity is occurring, periodic monitoring, and remedial action if the monitoring reveals that ground water contamination is occurring. Also see Chapter 24.70 TCC regarding sureties.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.080 Biosolid application.

Biosolid application and uses shall be regulated by the Washington Department of Ecology and meet all applicable federal and state standards, including Chapter 173-308 WAC; and the memorandum of understanding, or similar document, between Thurston County and the Washington Department of Ecology in regard to biosolids and critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.090 Cemeteries.

Applicants for a cemetery shall submit a hydrogeological report evaluating the risk the proposed cemetery poses to groundwater and surface water. The approval authority may condition the project as necessary to protect ground water quality. The approval authority shall deny the proposed cemetery if it is determined that it would likely contaminate potable ground water supplies.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.100 Commercial and industrial uses—General standards.

Commercial and industrial uses and activities are allowed in CARAs as specified in Table 24.10-1, subject to Article VI of the Thurston County Sanitary Code, as amended, and the following standards, as applicable:

A. Where floor drains are allowed, any floor drains in areas where hazardous materials are used, stored or otherwise present shall have a removable lip or barrier that will prevent spilled hazardous material from entering the drain, consistent with Chapter 14.28 TCC, Uniform Plumbing Code. The approval authority may require that a sump or other device be used to ensure that hazardous material does not drain to the soil, sewage disposal system, or a water body.

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B. Areas where hazardous materials are used or stored shall not drain to the soil, a stormwater system, water body, or a sewage disposal system. The approval authority may require that a sump or other device, as appropriate to address the contaminants of concern, be used to ensure protection of ground water quality.

C. All vehicle and equipment washing must be done in a self contained area (e.g., with recycling system) designed to ensure that hazardous materials do not reach the soil, a water body or a sewage disposal system. This does not apply to discharges to a sewer that were approved by the sewer utility, consistent with Chapter 14.28 TCC. Water used in wash down areas shall be treated to remove contaminants prior to discharge. (See Chapter 173-216 WAC and the BMPs for Vehicle and Equipment Discharges, Department of Ecology WQR 95-56, as amended).

D. An integrated pest management plan shall be drafted to be consistent with the integrated pest management policies approved by the health officer. The plan shall be implemented upon approval by the department. The county may periodically verify compliance with the approved plan.

E. All new commercial and industrial land uses that involve the use, handling, storage, disposal, or transportation of hazardous materials or dangerous/extremely dangerous wastes, as defined in Chapter 173-303 WAC, shall be required to prevent contact between the aforementioned materials and stormwater. This may not apply to materials applied in an outdoor setting as part of an approved activity's landscaping maintenance plan. This includes, but is not limited to, gas stations, fuel distributors, car/truck washes, trucking companies, asphalt plants and paint shops. The generation of hazardous materials or dangerous waste is separated into two categories:

1. A small quantity generator can generate up to two hundred twenty pounds of dangerous waste, or up to 2.2 pounds of certain pesticides or poisons, each month. Small quantity generators can accumulate up to two thousand two hundred pounds of dangerous waste, or 2.2 pounds of certain pesticides or poisons, at their site before sending the waste off-site for proper disposal or recycling.

2. Businesses that generate more than two hundred twenty pounds of hazardous wastes during any month must comply with the Washington State Dangerous Waste Regulations, Chapter 173-303 WAC.

F. The applicant shall demonstrate that the proposed use or activity will not cause degradation of ground water quality exceeding the standards described in Chapter 173-200 WAC (Water Quality Standards of the State of Washington) and comply with all other applicable local, state, and federal regulations.

G. The approval authority may require that the applicant install monitoring wells, to the extent necessary to determine if pollution is occurring, periodic monitoring at specified intervals, and remedial action if the monitoring reveals that ground water contamination is occurring. (See Chapter 24.70 TCC regarding surety.)

H. The approval authority may require additional protective measures if necessary to protect surface and ground water quality, including but not limited to BMPs, devices or methods to provide a high level of nutrient removal from stormwater, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.103 Composting facilities.

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A. Composting shall be conducted in compliance with WAC 173-350-220, when applicable, and the requirements of Article V of the Thurston County Sanitary Code. Composting facilities required to obtain a permit from the health officer shall establish financial assurance in accordance with Article V, Section 9 of the Thurston County Sanitary Code.

B. Home composting shall be exempt from the requirements of this title and Article V of the Thurston County Sanitary Code if conducted in a manner such that there is no evidence of vectors that affect neighboring property.

C. Composting facilities shall adhere to standards established in Chapter 20.54 TCC for composting facilities, and TCC 24.10.100, where applicable.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.105 Dry cleaner facilities.

When permitted by the approval authority, dry cleaner facilities shall be consistent with standards established in TCC 24.10.100 and 24.10.140 and shall follow best management practices and control technologies for pollution prevention as described by the Washington State Department of Ecology, the U.S. Environmental Protection Agency, or as otherwise required by state or federal law.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.110 Fuel dispensing.

Sites where fuel is dispensed shall be designed to contain fuel spills on site without contaminating stormwater systems, sewage disposal systems, soil or water. This can be accomplished, for example, by installing a roof structure that shields the fueling area from precipitation and sloping the area surrounding the fuel pumps toward a sump with capacity for at least one hundred gallons of fuel or by surrounding the covered fueling area with a shallow curb that provides capacity for at least one hundred gallons of fuel. The storage capacity for the containment method may be adjusted by the approval authority, depending on the scale of the fuel dispensing facility.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.120 (Unattended) gasoline and diesel powered generators.

Gasoline and diesel powered backup generators in a CARA shall be placed in a secondary containment device, consistent with TCC 24.10.050(B), such that a fuel spill or leak will not reach the soil or a water body unless the site where the generator will be operated contains a full time residence or is occupied a minimum of eight hours per day, five days a week by trained employees associated with the facility.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.130 Golf courses, parks, playgrounds, athletic fields, and landscaped areas exceeding one acre in size.

Fertilizer, herbicide and pesticide management practices for golf courses, parks, playgrounds, athletic fields and other public facilities and institutions with landscaped areas exceeding one acre in size shall comply with integrated pest management standards established in TCC 24.10.100.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.135 Greenhouse/nursery.

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Wholesale and retail greenhouses and nurseries (excluding facilities defined as agricultural activities in Chapter 17.15 TCC) shall comply with integrated pest management standards established in TCC 24.10.100. Any fertilizers shall be applied at an agronomic rate in accordance with the timing and amount of crop demand for nitrate, unless the approval authority determines that a lower rate of application is appropriate to protect surface and groundwater quality.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.140 Hazardous materials.

A. Hazardous materials shall be used, handled, stored, and disposed of in accordance with the standards contained in this section, Chapter 14.32 TCC, International Fire Code, Article VI of the Thurston County Sanitary Code, and applicable state law (see RCW 70.105, Chapter 173-303 WAC).

B. Operators of new and existing uses and activities that involve the use, handling, storage or generation of hazardous materials exceeding thresholds specified in the International Fire Code (2009), as amended, shall submit for county review and approval a hazardous materials management plan that demonstrates that the use or activity will not have an adverse impact on ground water quality. Notwithstanding the requirements of the International Fire Code, if the approval authority determines that the proposed use or activity poses a risk to ground water, they shall require submission of a hazardous materials management plan to protect ground water quality. Approved hazardous materials management plans shall be implemented. Hazardous materials management plans shall include, at a minimum, the information listed in TCC 24.35.045.

C. Persons that possess liquid, soluble, or leachable hazardous materials shall contain such materials and the entire distribution system in a secondary containment device or system that will effectively prevent discharge on-site. Secondary containment may be achieved in a variety of ways, including, but not limited to, use of sloping floors that provide capacity to contain spills or installation of a curb around the perimeter of the structure. (See Article VI of the Thurston County Sanitary Code, the Rules and Regulations Governing Nonpoint Source Pollution. Also see Chapters 15.54 and 17.21 RCW regarding pesticide storage. Refer to Chapter 14.32 TCC, International Fire Code, regarding seismic standards.)

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.145 Metal plating.

When permitted by the approval authority, metal plating operations shall be consistent with standards established in TCC 24.10.100 and 24.10.140 and shall follow best management practices and control technologies for pollution prevention as described by the Washington State Department of Ecology, the U.S. Environmental Protection Agency, or as otherwise required by state or federal law.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.150 Mineral extraction—Gravel and sand.

See Chapter 17.20 TCC and Title 332 WAC.

A. In addition to other stormwater mitigation requirements, stormwater from the portion of the site where hazardous materials are stored and/or where fueling of equipment occurs shall be directed away from the pit.

B. Gravel mining shall not occur in locations where the approval authority determines, based on a hydrogeologic report, that proposed mining would likely diminish the volume of water in springs or shallow wells such that it would no longer meet the needs of dependent users, or influence water's quality, quantity, temperature, or turbidity such that it would no longer be suitable for drinking. As an alternative to project denial, the applicant may, with the consent of the affected property owner, mitigate such impacts by providing the affected residents with a deeper well or a connection to an alternative water system. Also see Chapter 17.20 TCC.

C. Mines shall be prohibited in areas with existing contamination that, if it were disturbed or exposed, could impair water quality, including water temperature, unless the applicant demonstrates that the proposed mining operation would be conducted in a manner that would not jeopardize ground and surface water quality. The approval authority may require a hydrogeologic report and soil testing and down gradient water testing for suspected toxic chemicals on the site.

D. Fueling. See TCC 17.20.050.

E. Monitoring. See TCC 17.20.160(B).

F. Mining is not allowed in the one-, five- and ten-year time of travel zone of wellhead protection areas. In CARA I, II and III soils, the mine operator shall maintain a buffer of unsaturated material five feet in depth between the bottom of the pit and the seasonal high groundwater table. The approval authority may adjust the depth of the buffer based a hydrogeologic report as warranted to protect ground water quality.

G. Redevelopment. The approval authority shall give protection of ground water the highest priority when considering proposed land uses at former gravel mine sites. The approval authority shall require, at the time of mine approval, that a note be filed with the title of the subject property indicating that use of the property subsequent to mine closure will be limited as the county determines necessary to protect ground water quality, consistent with the provisions of this section. In addition, gates and fencing shall be required at mine access points along public and private roads to prevent dumping.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.160 On-site sewage disposal.

On-site sewage disposal systems may be allowed subject to compliance with applicable county and state regulations (See Article IV of the Thurston County Sanitary Code; Chapters 246-272A and 246-272B WAC (large on-site sewage systems), the On-Site Sewage Regulations of the Washington State Board of Health; and Chapter 173-200 WAC, the Water Quality Standards for Ground water of the State of Washington) and the following:

A. Applicants for large on-site sewage systems, or sewage disposal facilities with capacity for more than three thousand five hundred gallons shall submit a hydrogeologic report demonstrating that the system will not degrade ground water quality, consistent with this section. The project must comply with the health department's current assimilative capacity policy, and in no case shall the project increase the nitrate concentration in the aquifer by more than ten percent above existing conditions. The approval authority shall condition or deny the project as necessary to maintain ground water quality.

B. Nitrate levels at the applicable monitoring well or down-gradient property line of proposed subdivisions, short subdivisions, or binding site plans in a Category I CARA and areas identified as having elevated nitrate levels on the map entitled Known Area of Soil or Groundwater Concern, dated

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April 2004, as amended, shall conform with the current adopted Thurston County Health Department Assimilative Capacity Policy, as amended. A hydrogeological report may be required as determined by the director. The report must be prepared by a licensed hydrogeologist.

C. Lots less than one acre in size shall not be created by subdivisions, short subdivisions, or binding site plans if they would use on-site sewage disposal systems in a Category I CARA, regardless of the proposed source of potable water, unless the applicant demonstrates, consistent with Article IV of the Thurston County Sanitary Code, that due to the proposed system design, vertical separation from ground water, and the existing soils, ground water quality will not be degraded. (Also see Article IV of the Thurston County Sanitary Code, Section 22, and Areas of Special Concern).

D. Monitoring. See Article IV of the Thurston County Sanitary Code.

E. Hydrogeologic reports shall be required pursuant to Table 24.10-2 below. The report shall be prepared by a licensed hydrogeologist.

F. The Washington State Department of Health is the permit authority for larger on-site sewage systems (LOSS) through Chapter 246-272B WAC.

Table 24.10-2. Report Requirements for Subdivisions, Short Subdivisions, Multifamily Residential and Nonresidential Projects Proposed to Use On-Site Sewage Disposal

Dwelling Unit Density and Volume Equivalent*	Report Requirements by Aquifer Category		
	I	II	III
One Unit or Less per 5.0 Acres	N/A	N/A	N/A
One Unit per Acre to One Unit per 5.0 Acres	HWD	HWD	HWD
One to Two Units Per Acre	H	H	H
2.0 Units per Acre or More	H	H	H
3.5 Units per Acre, or more than 1,575 Gallons per Day of Sewage	X	X	X
Large On-Site Sewage Systems (LOSS) with capacity for 3,500 gallons or more per day	H	H	H

* Hydrogeologic reports are required for new/expanding development that create more than two new lots or generate/add one thousand gallons of sewage per day or more.

Legend:

X= Prohibited

H = Hydrogeological report required

HWD = Hydrogeological report required in areas of known water quality degradation

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.170 Pier foundations.

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Pier foundations that would extend more than twenty feet below the ground's surface that are proposed to be located within two hundred feet of a well in a CARA shall be subject to review and approval by the approval authority. In the event the approval authority determines that the proposed foundation will pose a risk to the affected well's water quality, they may require that the proposed foundation be relocated, replaced with a shallow mat foundation, if feasible, or require other mitigation measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.180 Pipelines.

Applicants for pipelines that carry oil, gas, diesel, kerosene or any other liquid hazardous material shall identify spill prevention measures and submit a spill response plan that prioritizes response based on the susceptibility of the aquifer to contamination and its importance as a potable water supply, consistent with federal and state law. The approval authority shall require mitigative measures as necessary to minimize the risk of ground water contamination.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.190 Reclaimed water.

A. Irrigation with Class A reclaimed water at agronomic rates is permitted in all CARAs, subject to TCC 24.10.030.

B. Infiltration of reclaimed water (application to the land's surface above agronomic rates) Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.195 Residential uses—General.

Residential and appurtenant structures, and typical residential-scale activities are allowed subject to applicable sections of the Thurston County Code and Thurston County Sanitary Code. On-site septic systems, including those associated with residential uses, are addressed in TCC 24.10.160.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.200 Sawmills.

See Chapters 173-303 and 173-350 WAC and the best management practices to Prevent Stormwater Pollution at Log Yards, Washington Department of Ecology 95-53, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.205 Solid waste.

The processing, handling, transferring, and recycling of solid waste shall be consistent with applicable provisions of Chapter 173-350 WAC, Article V of the Thurston County Sanitary Code, TCC 24.10.100, and other applicable provisions of the Thurston County Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.210 Stormwater.

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See 24.10.100(F) TCC regarding stormwater management for commercial and industrial sites. Also see the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), the Northern Thurston County Ground water Management Plan (1991), the Illicit Discharge Detection and Elimination Ordinance (Chapter 15.07 TCC), and Article VI of the Thurston County Sanitary Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.220 Underground storage tanks and vaults.

- A. Residential underground storage tanks and vaults are regulated by the International Fire Code.
- B. Underground tanks and vaults for the storage of hazardous materials, fertilizers, or hazardous/dangerous waste, as defined in Chapter 173-303 WAC, are allowed in a CARA only if they are designed and constructed consistent with state regulations (see Chapter 173-360 WAC), Chapter 14.32 TCC, International Fire Code, and Article VI, Rules and Regulations of the Thurston County Board of Health Governing Nonpoint Source Pollution, so as to:
 - 1. Prevent releases to the ground, ground water, and surface water due to corrosion, structural failure, or seismic activity for the operational life of the tank or vault. (See Chapter 14.32 TCC, International Fire Code);
 - 2. Be protected against corrosion, constructed of non-corrosive material, or steel clad with a noncorrosive material, or contained in a secondary containment system to prevent the release of any stored substance;
 - 3. Be composed of or lined with material that is compatible with the substance to be stored;
 - 4. Prevent releases to the ground, ground water, and surface water due to spillage. The opening for filling the tank shall be surrounded with impermeable material designed and sized to prevent spilled hazardous material from reaching the soil, groundwater, or surface water; and
 - 5. Provide for leak detection meeting state standards.
- C. The applicant shall submit design and as built drawings of the facilities and keep records of required testing consistent with state law.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.230 Vehicle repair and servicing/body shops.

- A. Vehicle repair/servicing shall be performed over an impermeable surface under cover from the weather.
- B. Dry wells shall not be permitted in conjunction with such uses.
- C. Use and storage of hazardous materials shall be consistent with standards established in TCC 24.10.100 and Article V of the Thurston County Sanitary Code.
- D. The approval authority shall require that new hydraulic hoists be located in a vault to ensure that any leaks from such equipment are contained.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.240 Vehicle wrecking yards.

- A. Vehicle wrecking yards shall conduct operations consistent with TCC 24.10.100.
- B. The approval authority may require submission and implementation of a monitoring program to ensure that the operation is in compliance with Article VI of the Thurston County Sanitary Code and any other conditions of county approval.
- C. The approval authority may require monitoring wells, to the extent necessary to determine if pollution is occurring, periodic monitoring, and remedial action if the monitoring reveals that ground water contamination is occurring.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.10.250 Wood products preserving and treating.

Wood products preserving and treating shall comply with TCC 24.10.100 and 24.10.140, and the following:

- A. Wood products preserving, treating, drying, and storage shall be conducted on an impermeable surface, consistent with the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq.
- B. The approval authority shall require submittal of a monitoring plan for commercial/industrial wood products preserving and treating operations to ensure that the operation is in compliance with all applicable local, state and federal regulations pertaining to groundwater protection and any conditions of approval applied by the county. Remedial action shall be required if the monitoring reveals that ground water contamination is occurring.

Table 24.10-3. Critical Aquifer Recharge Areas Geologic Features (geologic units derived from WA Department of Natural Resources)

Category I Geologic Map Symbols	Geologic Interpretation
Qgyo3, Qgyo4 series	Sandy to Coarse Deposits
	Qgokb - Vashon kettle bottom (silt, peat with some gravel bottoms)
	Qgok - Coarse kettle walls
	Qgon3 - Vashon recessional outwash gravels, Train 3 (sand and gravel)
	Very Coarse Deposits - Municipal Water Supplies, Drinking Water Aquifers
	Qgyo4 - Vashon recessional outwash (loose sand and gravel)
	Qgyo3 - Vashon recessional outwash (cobbles, boulders, gravel and sand)
	Qga - Vashon advance outwash (sand, gravel, "drinking water aquifer")
	Qgas - Vashon advance outwash (sandy outwash)

	Qa - Alluvium (sand and gravel)
	Qgm - Glacial moraine deposits
Category II Geologic Map Symbols	Geologic Interpretation
Qga, Qgo series	Finer Sediments: Silty Sands and Thin Surficial Deposits Above Till
	Qga - Vashon recessional outwash (surficial unit above till - 10 to 20 feet thick)
	Qgo, Qgos, Qgosr - Vashon recessional outwash (sand, silty sand and gravel, silt)
	Qgp - Pre-Vashon glacial outwash
	Qgd - Glacial drift - Fraser Age
Category III Geologic Map Symbols	Geologic Interpretation
Qgt - series E- series (Bedrock)	Till Units
	Qgto2 - Vashon till
	Qgt di - Vashon till - Dead ice (associated with eskers and kettles)
	Qgt - Vashon till - Drumlin ground moraine (clay, silt, sand)
	Tertiary Igneous Rocks - Bedrock
	Evcn - Northcraft Formation (Volcanic breccias, volcanic-lithic sandstones)
	Eig - Gabbros (minor exposure/occurrence in Thurston County)
	Emm - McIntosh Formation (marine sandstone and volcanic-lithic siltstones)
	Evc - Crescent basalt

Table 24.10-4. Critical Aquifer Recharge Area Soil Series

CATEGORY I SOIL SERIES	
Series Name	SCS Map Symbol #
Baldhill	5, 6, 7, 8
Cagey	20
Everett	32, 33, 34, 35

Grove	42
Indianola	46, 47, 48
Newberg	71, 72
Nisqually	73, 74
Pilchuck	84
Pits, gravel	85
Puyallup	89
Spanaway	110, 111, 112, 113, 114
Sultan	115
Tenino	117, 118, 119
CATEGORY II SOIL SERIES	
<i>Series Name</i>	<i>SCS Map Symbol #</i>
Alderwood	1, 2, 3, 4
Chehalis	26
Delphi	27, 28
Eld	31
Giles	38, 39, 40
Maytown	64
Spana	109
Yelm	126, 127, 128
CATEGORY III SOIL SERIES	
<i>Series Name</i>	<i>SCS Map Symbol #</i>
Bellingham	14
Dupont	29
Everson	36
Galvin	37
Godfrey	41

Hoogdal	43, 44
Kapowsin	50, 51, 52, 53, 54, 55
Mashel	62, 63
McKenna	65
Mukilteo	69, 70
Norma	75, 76
Puget	88
Scammen	100, 101
Semiamoo	104
Shalkar	105
Shalkar Variant	106
Skipopa	107, 108
Tacoma	116
Tisch	120

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

Geologic Hazard Areas (Chapter 24.15 TCC)

24.15.005 General purposes.

The purposes of this chapter are to:

- A. Protect public health and safety;
- B. Avoid and minimize damage to property due to landslide, or other naturally occurring events;
- C. Avoid and minimize impacts of erosion and landslide hazards on wetlands and important wildlife habitats and species; and
- D. Identify and map geologic hazard areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.010 Applicability.

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- A. The provisions of this chapter apply to the following types of geologically hazardous areas:
 - 1. Erosion hazard areas;
 - 2. Landslide hazard areas; and
 - 3. Marine bluff hazard areas.
- B. The provisions of this chapter do not apply to the following types of geologically hazardous areas:
 - 1. Seismic hazard areas;
 - 2. Volcanic hazard areas; and
 - 3. Mine hazard areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.015 Standard buffer for landslide hazard areas and marine bluff hazard areas.

Development in a landslide and marine bluff hazard areas requires an undisturbed buffer of approved vegetation, except as otherwise provided for in this chapter. The required buffer shall be the greater amount of the following:

- A. Fifty feet from toe and top of slope; or
- B. A distance measured as follows:
 - 1. Landslide Hazard Areas. A buffer from the toe and top of slope equal to the following: The distance measured from the toe of slope upward at a slope of 2:1 (horizontal to vertical) to a point that intersects with the existing topography of the site; or
 - 2. Marine Bluff Hazard Areas. A distance from the ordinary high water mark landward at a slope of 2:1 (horizontal to vertical) which intersects with the existing topography of the site; or
- C. The minimum distance recommended by the geotechnical professional in the geological assessment, based on review of the extent of unstable landform and definition of the potential hazard area from each site investigation, as measured outward from the toe and top of slope.
- D. Buffers for marine bluff hazard areas shall also comply with TCC 24.25.045—24.25.055, and all applicable sections of the Shoreline Master Program for the Thurston Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.020 Nisqually hillside overlay district.

The Nisqually hillside overlay district is generally located on the bluff to the west of the Nisqually River, and is characterized as a special landslide hazard area in Thurston County due to past unstable slope conditions.

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- A. This area is depicted on the map entitled "Nisqually Land Use Categories and Zoning Districts," a copy of which shall be on file with the Thurston County Resource Stewardship Department.
- B. This overlay district shall extend from the toe of McAllister Bluff to a point two hundred feet westerly of the top of McAllister Bluff, except as provided for in Section 24.15.021, below. The top of McAllister Bluff is as noted on the aforementioned map as "bluff line" as lies to the west of McAllister Creek. The actual bluff line is subject to field verification.
- C. The criteria to field locate the top of McAllister Bluff is a distinct topographic break in the slope less than thirty percent and at least fifteen feet wide which is verified by the Thurston County Resource Stewardship Department.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.021 Nisqually hillside overlay district—Standards.

Any development permit within the aforementioned area shall be subject to the following standards:

- A. Residential development within this overlay district is prohibited, however, the number of dwelling units, as calculated by the underlying residential zone (one unit per five acres), may be clustered on that portion of the parcel not within this overlay district or transferred to an adjacent parcel. Cluster development in the Nisqually hillside overlay district shall be developed consistent with the underlying zoning district and associated development requirements in Chapters 20.30 or 20.30A TCC. No fractional units will be created in this calculation unless the parcel size is less than five acres.
- B. The western two hundred feet of the Nisqually Hillside Overlay District is a buffer measured from the top of McAllister Bluff, except that portion of the bluff between I-5 and Martin Way which shall be fifty feet.
- C. Some flexibility from subsection (B) above will be provided for areas of preexisting development along the bluff. These areas include lots less than one acre in size, undeveloped lots in a subdivision, and the portion of the slope between Martin Way and I-5. In those locations the buffer from McAllister Bluff shall be at least fifty feet wide, with the exact location on the bluff determined on a case by case basis through an administrative site plan review process. This buffer width must protect the stability of the bluff and maintain the visual integrity of the hillside.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.025 Standards and allowable uses and activities within geologic hazard areas and associated buffers.

- A. Those uses and activities listed in Table 24.15-1 are only allowed in geologic hazard areas or their buffers as set forth in that table, subject to the performance standards set forth in TCC 24.15.030-240;
- B. All other land uses and activities not allowed pursuant to Table 24.15-1, or not mentioned in Table 24.15-1, are prohibited, unless determined otherwise pursuant to TCC 24.01.030(B);
- C. Differences in regulations because of the overlap of two or more critical areas are governed by Chapter 24.01 TCC.

The general standards listed in TCC 24.15.030 apply to all uses in Table 24.15-1. The standards provided in TCC 24.15.040—24.15.240 apply only to those uses and activities in Table 24.15-1 when carried out within a geologic hazard area (i.e., landslide, marine bluff, erosion) or buffer. Where no specific performance standards are specified for the uses and activities in Table 24.15-1, the approval authority shall review projects based upon the purposes and provisions of this chapter. Table 24.15-1 contains the primary section references for each activity covered by this chapter.

Table 24.15-1. Restricted Uses and Activities in Geologic Hazard Areas and Associated Buffers

RESTRICTED USES AND ACTIVITIES	Landslide Hazards	Marine Bluff Hazards	Erosion Hazards
Antenna support structures regulated by Chapter 20.33 TCC	X	X	X
Asphalt batch plants	X	X	X
Boat ramp or marine railway and associated vehicle access TCC 24.15.050	P	P	P
Bridges and culverts - Maintenance or repair TCC 24.15.060	P	P	P
Bridges and culverts - Replacement or expansion TCC 24.15.070	P	P	P
Bridges and culverts - New construction TCC 24.15.080	P	P	P
Cemeteries	X	X	X
Clearing and grading/timber harvest in conjunction with an approved development project TCC 24.15.090	P	P	P
Creation of ponds TCC 24.15.030 <1 acre	X	X	X
Creation of a ski lake	X	X	X
Critical facilities—see Table 24.15-2	X	X	X
Drainage ditch maintenance TCC 24.15.030	P	P	P
Drilling and testing for required report or engineering study TCC 24.15.030	A	A	A

Emergency response	SEE CHAPTER 24.90 TCC		
Existing lots approved prior to July 24, 2012 - Construction of primary structures and associated, decks, garages, and appurtenant structures.	SEE CHAPTER 24.50 TCC		
Fences (see Chapter 24.60 TCC)	A	P	A
Gardening for personal consumption - Existing TCC 24.15.030	A	A	A
Habitat restoration/enhancement TCC 24.15.030	P	P	P
Infiltration of reclaimed water (application to the land's surface above agronomic rates*) *Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).	X	X	X
Lawfully established existing uses (see Chapter 24.50 TCC)	A	A	A
Lawns, landscaping, golf courses, and cemeteries - Maintenance TCC 24.15.030	A	A	A
Mineral extraction (Also see Chapter 20.54 special uses, Chapter 20.30B, and Chapter 17.20 TCC - mineral extraction code) TCC 24.15.030	P	X	P
Mitigation required by the county TCC 24.15.030	A	A	A
Nonconforming structures/uses - Maintenance, repair, alteration, expansion, replacement, or relocation	SEE CHAPTER 24.50 TCC		
On-site sewage disposal system - Repair and replacement TCC 24.15.100	P	P	P

On-site sewage disposal system - New construction TCC 24.15.100	X	X	P
Open space (e.g., critical area tract) TCC 24.15.030	A	A	A
Piers - Construction TCC 24.15.110	P	P	P
Public park facilities, trails and developed recreation areas - Maintenance TCC 24.15.120; 24.15.130	A	A	A
Public project of significant importance TCC 24.15.030	P	P	P
Recreation activities (outdoors) - Passive and low impact outdoor recreation activities (e.g., bird watching, boating, bicycling, canoeing, fishing, hiking, hunting, jogging, photography, swimming, and similar activities).	A	A	A
Recreation facilities (Passive), trails/paths, elevated walkways, and associated facilities - New TCC 24.15.130	P	P	P
Recreation facilities - Active (e.g., public and private parks, day camps and camping sites. This does not include clearing or structures). TCC 24.15.120	P	P	P
Recreation facilities - Active - New golf courses, swimming pools, athletic fields, and other similar structures TCC 24.15.120	X	X	X
Research (e.g., education, scientific, and site investigation) TCC 24.15.030	A	A	A
Roads - Repair and maintenance TCC 24.15.145	A	A	A
Roads - Replacement of lawfully established roads within maintained, improved (paved or	P	P	P

railroad tracks) rights-of-way or easements TCC 24.15.145			
Roads - Expansion TCC 24.15.140	P	P	P
Roads - New construction TCC 24.15.140	P	X	P
Slope/shoreline stabilization - New TCC 24.15.150	P	P	P
Slope/shoreline stabilization - Repair and maintenance TCC 24.15.15	P	P	P
Signs (e.g., interpretation, critical area tract, and survey markers,)	SEE CHAPTER 24.60 TCC		
Stair tower, stairway or mechanical lift TCC 24.15.160	P	P	P
Stormwater conveyance system or detention/treatment facility - Maintenance/repair TCC 24.15.175	P	P	P
Stormwater retention/treatment facility - Construction	X	X	X
Stormwater - Temporary sediment control ponds - Construction	X	X	X
Stormwater - Surface water conveyance system - Construction	P	X	P
Stormwater facilities on existing residential lots - New TCC 24.15.170	P	P	P
Structures - All other not addressed by this chapter	X	X	P
Subdivisions	SEE CHAPTER 24.55 TCC		
Utilities - Maintenance, repair, or replacement TCC 24.15.030	A	A	A

Utility facility TCC 24.15.178	X	X	P
Utility transmission lines, utility corridors, outside of existing improved roads and utility corridors - New construction TCC 24.15.178	P	P	P
Utility lines and facilities in improved roads and utility corridors - New installation TCC 24.15.030 and TCC 24.15.178	P	P	P
Utility service lines - Installation TCC 24.15.030	P	P	P
Vegetation removal - Forest practices permit-Class IV. COHPs TCC 24.15.190	X	X	P
Vegetation removal - Noxious weeds TCC 24.15.210	A	A	A
Vegetation removal - Invasive vegetation TCC 24.15.220	P	P	P
Vegetation removal - Removal of hazard trees TCC 24.15.200	P	P	P
Vegetation removal - Other TCC 24.15.230	P	P	P
Wells - New and replacement TCC 24.15.240	P	P	P
Wildlife blind or nesting structure	A	A	A
Uses allowed in the applicable zoning district/shoreline master program not listed elsewhere in this table	SEE TCC 24.15.030		

LEGEND:

A = Allowed without a critical area review permit, subject to requirements of this title

P = >Permitted, subject to critical area review permit and requirements of this title

X = Prohibited

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.030 General standards.

The following requirements apply, as applicable, to all uses and activities listed in Table 24.15-1.

- A. Regulatory Differences. See Chapter 24.01 TCC.
- B. Geologic Assessments. Applications for all uses listed in Table 24.15-1 that require a development permit, with the exception of emergency responses provided for in Chapter 24.90 TCC, shall submit a geologic assessment as specified in Chapter 24.35 TCC.
- C. Applications. Applications to undertake a use or activity within a geologic hazard area shall contain all information necessary to evaluate the proposed activity, its impacts, and its compliance with the provisions of this chapter.
- D. Public Health and Safety. All development in geologic hazard areas shall be designed to protect public health and safety.
- E. Avoid Increased Threat to Adjacent Properties. Development in geologic hazard areas shall be designed so it does not increase the threat of the geologic hazard to other properties that would likely be affected in the event of a slope failure, based on the professional opinion of a geotechnical professional.
- F. Avoidance of impacts. All allowed uses and activities shall be designed and constructed to avoid or, where that is not possible, minimize negative impacts to geologic hazard areas and associated buffers. Applicants must first demonstrate an inability to avoid or reduce impacts, prior to the approval authority considering restoration and mitigation of impacts.
- G. Avoid the Need for Shoreline Stabilization. The approval authority shall deny proposed developments and uses, including subdivisions, if it is determined that the development or use would require structural shoreline stabilization measures at the time of construction/implementation or over the life of the development. Developments and uses that would require such structural shoreline stabilization must be approved through the reasonable use exception process (see Chapter 24.45 TCC).
- H. Surety. Applicants for proposals involving restoration or enhancement of degraded geologic hazard areas as a condition of permit approval shall submit to the county a surety consistent with Chapter 24.70 TCC.
- I. Mitigation. Adverse impacts to geologic hazard areas and associated buffers shall be fully mitigated.
- J. Any application of the chapter to an existing use or structure assumes that such use or structure was legally established. A proposal to apply this Chapter to a use or structure that has not been legally established is prohibited.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.050 Boat ramp, or marine railway and associated vehicle access.

Refer to the Shoreline Master Program for the Thurston Region, as amended, and TCC 24.25.110. Hand launching sites are not considered boat ramps under this section and are subject to the general standards in TCC 24.15.030.

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(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.060 Bridges and culverts—Maintenance and repair.

- A. Existing bridges and culverts can be maintained and repaired within the existing road bed/footprint provided best management practices are employed to avoid increasing the potential for a hazard area to fail, and to prevent erosion. Bridges and culverts must also be consistent with TCC 24.25.280—24.25.290, fish and wildlife habitat conservation areas.
- B. Clearing of culverts does not require a permit. Clearing of culverts shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.070 Bridges and culverts—Expansion or replacement.

Expansion or replacement of a bridge or culvert is allowed if necessary to conform to current county or state standards and if:

- A. The existing bridge or culvert was lawfully established; and
- B. There is not another alternative available that has less adverse impact on the geologic hazard area or associated buffer; and
- C. The bridge or culvert is designed to avoid or, if not possible, minimize impacts to the geologic hazard area and it is in compliance with the standards for new crossings contained in TCC 24.25.280.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.080 Bridges and culverts—New.

New bridges and road culverts are allowed if:

- A. There is not another alternative access available outside of the geologic hazard area(s) or associated buffer(s);
- B. The bridge or culvert shall be designed and located in a manner that presents the lowest risk of exacerbating an existing geologic hazard or impacting the associated buffer; and
- C. The bridge or culvert is designed in compliance with the standards for new crossings contained in TCC 24.25.280.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.090 Clearing and grading.

Clearing and grading within landslide, marine bluff, and erosion hazard areas shall be limited to the area approved for development and shall not be allowed during the wet season (October 1 through May 1) unless the approval authority determines that adequate provisions for wet season erosion have been identified in the geological assessment. All such erosion control measures shall be implemented as a condition of wet-season clearing and grading. The approval authority may

require monitoring to ensure that the erosion control is functioning properly. The county may further restrict grading between May 1 and October 1 and also require wet season erosion control provisions if the site is particularly susceptible to erosion and sedimentation that could create unstable conditions or jeopardize a wetland or important habitat. Also see Chapter 14.20 TCC regarding grading requirements and the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.100 On-site sewage systems—New and replacement.

- A. New Sewage Systems. New on-site sewage systems shall be prohibited within geologic hazard areas and associated buffers.
- B. Replacement. Failing on-site sewage disposal systems shall be remedied through a method that results in the least impact to the hazard area and associated buffer. Replacement sewage disposal systems shall not be allowed within geologic hazard areas or the associated buffers unless there is no alternative site available outside of such areas to accommodate the facilities. This may require systems that provide a higher level of sewage treatment. The approval authority may deny the request to replace a failing on-site sewage system if it is determined, in consultation with a geotechnical professional, that it poses a risk to public safety. Clearing of existing vegetation to remedy the failing system shall be limited to the minimum extent practicable.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.110 Piers.

Refer to the Shoreline Master Program for the Thurston Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.115 Reclaimed water.

Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.120 Recreation—Active.

The approval authority may allow active recreation facilities, such as, but not limited to, public and private parks and campgrounds within geologic hazard areas and associated buffers subject to the following criteria and exceptions. Also see TCC 24.15.130, 24.15.180—24.15.230, 24.25.270, and 24.30.260:

- A. Active recreation facilities and access to them shall be designed and located to minimize disturbance to the geologic hazard area and associated buffers.

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- B. Uses such as athletic fields, golf courses, operation of motorized recreational vehicles (ORVs), and related structures, restrooms and parking areas shall not be located in geologic hazard areas or associated buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.125 Recreation facilities, trails, and trail-related facilities—Exemptions.

The following uses are exempt from the need for a critical area permit:

- A. Construction and/or maintenance of a private ground trail using hand tools in the geologic hazard area, provided that the trail is three feet or less in width, not impervious (e.g. gravel, rocked, paved), and constructed with minimal vegetation removal and minimal pervious material such as wood chips. Construction of the trail shall not cause a public safety risk.
- B. Passive recreation activities.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.130 Recreation facilities (passive), trails/paths, elevated walkways, and associated facilities—New.

Trails and trail related passive recreation facilities shall only be authorized within geologic hazard areas subject to the following criteria (also see TCC 24.15.180-230, 24.25.270, and 24.30.260).

- A. Trails and related passive recreation facilities shall be placed on existing levees, dikes, road grades, utility corridors, or any other previously disturbed areas to the maximum extent practicable, as determined by the director;
- B. The width of trails extending through a geologic hazard area and/or buffer shall be minimized. Access paths extending through the geologic hazard area and buffer shall be no more than four feet in width unless they are designated for public access and designed to accommodate handicapped persons. In that case, the trail and associated clearing shall comply with the Americans with Disabilities Act (ADA) guidance for trail construction.
- C. Clearing shall be done with hand tools unless the approval authority determines that the scale of the project necessitates mechanized equipment and its use will not increase the hazard associated with the geologic hazard area or buffer within and beyond the trail corridor;
- D. Trails and related passive recreation facilities shall be planned to minimize vegetation removal;
- E. Viewing platforms, interpretive signs, picnic areas, benches and access to them shall be designed and located to minimize disturbance;
- F. Trails and related passive recreation facilities shall provide water quality protection measures to assure that runoff from them does not create channels or otherwise directly adversely affect the stability of the landslide hazard area or marine bluff;
- G. Native vegetation disturbed by trail construction shall be made available for salvage.
- H. The removal or disturbance of vegetation, clearing or grading shall be prohibited;

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1. During the wet season (November 1 to May 1); or
 2. During other wet time periods where clearing and grading may result in a public safety risk, as determined by the director;
- I. The proposed trail shall not adversely affect existing slope conditions within the geologic hazard area, or any required buffer; and
 - J. Parking areas, structures, and restrooms shall be located outside the geologic hazard area and associated buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.15.140 Roads/streets/driveways—New and expanded.

New roads, streets, driveways and private access roads are prohibited in marine bluff hazard areas and associated buffers. Proposed road crossings or encroachments into other geologic hazard areas or associated buffers shall follow all applicable local, state, and federal laws and the requirements listed below. These requirements also apply, as applicable, to road expansion within existing rights-of-way, footbridges, private access roads, and driveways.

- A. Road alignments shall avoid landslide hazard areas and associated buffers, except where there is no alternative and safeguards will be employed to minimize the risk of slope failure and potential habitat degradation, consistent with a geological assessment. (See Chapter 24.35 TCC). In deciding on the placement of roadway alignments, the placement of the road alignment shall adhere to mitigation sequencing as specified in Section 24.01.037 TCC, and the review authority shall make findings for each of the mitigation sequencing steps on why they do not apply to the proposed activity.
- B. Mitigation measures shall be provided that ensure the roadway prism and/or bridge structure will not be susceptible to damage from active erosion or seismically-induced ground deformation.
- C. Expansion of roads in marine bluff hazard areas shall be prohibited unless it is needed for public safety. Expansion shall not result in an increase in road capacity and shall not exacerbate or create risks to public safety associated with the geologic hazard.
- D. There may be other requirements in the Thurston County Code that prohibit the placement of a road in a landslide hazard area.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.15.145 Roads/streets—Maintenance/repair/replacement.

Roads, streets, highways, rights-of-way and other existing facilities, equipment, and appurtenances within approved rights-of-way may be maintained, repaired, resurfaced, replaced, installed, or constructed by the county or the holder of a current right-of-way use permit consistent with all applicable local, state, and federal laws. Such maintenance that involves road expansion, physical, or capacity, shall be subject to the requirements of TCC 24.15.140. Also see requirements in Chapters 24.25 and 24.30 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.150 Slope stabilization—New.

The approval authority may authorize stabilization of a steep slope or marine bluff only where they determine it to be necessary to protect lawfully established threatened existing structures as defined in this title and by the Shoreline Master Program for the Thurston Region (1990) as amended and applicable, and that cannot be relocated with less impact to geologic hazard areas or other critical areas. Stabilization of marine shorelines is subject to standards within the Shoreline Master Program for the Thurston Region, as amended, TCC 24.25, and consistent with this section. Any proposal for slope/bluff stabilization must be supported by a geological assessment from a qualified geotechnical professional and a biologist and shall adhere to the following preferential order:

- A. **Nonstructural Shoreline Protective Techniques.** When stabilization methods are deemed necessary by the director, nonstructural shoreline protective techniques are preferred to concrete bulkheads or other types of shoreline armoring. Nonstructural techniques may include but are not limited to: beach nourishment, coarse beach fill, gravel berms, vegetation plantings and bioengineering. Best available science shall be used to evaluate the best techniques for protection as determined by the director. Refer to the Washington Department of Ecology publications "Slope Stabilization and Erosion Control Using Vegetation" (1993, Publication 93-30), and "Marine Shoreline Armoring and Puget Sound" (2010, Publication 10-06-003).
- B. **Bioengineering.** If necessary, stabilization of slopes and marine bluffs shall be accomplished with bioengineering or similar "soft" stabilization techniques unless the applicant's qualified engineer and biologist demonstrate that such techniques are not sufficient to protect structures and facilities listed above from erosion and slope failure. The stabilization shall be designed and installed to minimize adverse impacts on the habitat's functions.
- C. **Combination of Bioengineering and Hard Armoring.** If the applicant's qualified engineer and/or biologist demonstrates to the approval authority that bioengineering alone will not be sufficient to protect structures and facilities listed above, the approval authority may authorize a combination of bioengineering and structural solutions that is least damaging to the habitat. The stabilization shall be designed and installed to minimize any adverse impacts on habitat functions. The structural stabilization solutions shall comply with subsection (D) below.
- D. **Structural Techniques (e.g., Bulkhead, Gabion, Riprap, Revetments, or Wall).** If the applicant's qualified engineer and biologist demonstrates to the approval authority's satisfaction that the techniques provided above are not possible or will not be sufficient to protect structures and facilities listed above from erosion and slope failure, they may, in consultation with a biologist and qualified engineer at the applicant's expense, approve a structural stabilization solution consistent with the following:
 1. Hard armoring, such as rip-rap and bulkheads may only be allowed when the applicant demonstrates to the approval authority that a public facility, public road, utility (not individual service lines that can be relocated), sole access road, or occupied structure cannot be safely and practically maintained without such measures. The armoring shall be the minimum length necessary to protect the structure.
 2. Structural techniques shall only be allowed along the toe of a marine bluff when:
 - a. It is to protect a legally permitted threatened structure; and

- b. The residence and normal appurtenances are located within the 2:1 slope measured from the toe of the bluff or within the fifty-foot top of slope buffer, whichever is greater; and
- c. Only if a marine bluff geotechnical assessment completed per Chapter 24.35 TCC finds that the structure to be protected will be threatened based on the long-term erosion rate (thirty—fifty year average) within the next three years if toe protection is not provided.
- 3. Hard armoring shall not be allowed along Type F and S waters in salmonid rearing areas unless it is necessary to protect critical public facilities, human life, or threatened dwellings.
- E. Retaining Wall (Not a Bulkhead). The approval authority may allow retaining walls to provide protection for a threatened existing legally established single-family residence or public road where other nonstructural or bioengineering techniques have not been successful or would not be appropriate. Design, placement and mitigation shall be established by a geotechnical assessment and revegetation plan as described in Chapter 24.35 TCC.
- F. Designed by Engineer. A professional engineer licensed in the State of Washington with demonstrated expertise regarding hydraulic actions along shorelines shall design stabilization projects along streams and marine shorelines in consultation with a qualified biologist.
- G. Avoid Intrusion into the Important Habitat Area of a Geologic Hazard Area. Any new or replaced shoreline protective structures shall be placed as close to the existing bank as possible and parallel to the natural shoreline. In areas where dry land has been previously created by fill behind the bulkhead, the replacement structure should be designed to remove the fill and place the new structure as close to the historical OHWM as possible.
- H. Nontoxic Materials. Approved stabilization shall only use materials that do not pose a risk to water quality, consistent with best available science.
- I. Slope Stabilization. Slope stabilization is only allowed in geologic hazards, if consistent with Chapter 24.25 TCC, Fish and Wildlife Habitat Conservation Areas and Chapter 24.20 TCC, Frequently Flooded Areas, and only where erosion or landsliding threatens a use listed in this section. Bioengineering shall be used where possible.
- J. A mitigation plan for impacts to geologic hazard areas including the shoreline ecological functions as a result of the armoring shall be prepared by a qualified biologist and implemented immediately following construction. Mitigation measures may include temporary or perpetual beach feeding with appropriate substrate, additional woody debris, revegetation of the adjacent upland area, or other measures designed to minimize the impacts to the nearshore environment from armoring.
- K. Prior to any approval of shoreline armoring, the applicant shall demonstrate that other measures have been taken to address the erosion or other threats to the structure. This includes improving or installing a functioning drainage system, minimizing impervious areas, restoration of trees and other native vegetation on the adjacent buffer slope or bluff, possible relocation of structures, or other measures that would improve stabilization and reduce the threat to the structure.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.155 Shoreline stabilization—Repair, maintenance, or renovation.

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Repair, maintenance, or renovation of lawfully established shoreline stabilization structures is permitted consistent with state and federal regulations and the Shoreline Master Program for the Thurston Region, as amended, provided that the facilities are not increased in height or length or expanded waterward. Replacement of existing shoreline stabilization structures shall be considered a new use subject to the requirements of 24.15.150 TCC, and the Shoreline Master Program for the Thurston Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.160 Stair tower, stairway, and mechanical lift.

- A. Stair towers, stairways, and mechanical lifts may be permitted consistent with the Shoreline Master Program for the Thurston Region (1990), as amended, and TCC 24.25.110.
- B. Stair towers, stairways, and mechanical lifts shall be designed and constructed to avoid adverse impacts to existing slope conditions.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.170 Stormwater facilities on existing lots—New.

New stormwater facilities and swales proposed to store, treat and/or convey stormwater for single-family residential development on existing lots may be constructed within geologic hazard areas and associated buffers consistent with the Drainage Design and Erosion Control Manual, as amended (Chapter 15.05 TCC) under the following conditions:

- A. No Alternative. The applicant shall demonstrate that there is no alternative for accommodating stormwater with less impact to the hazard area and/or buffer due to topography or other physical constraint. The facilities shall be designed and located to minimize impacts on the geologic hazard area and associated buffer.
- B. Geologic Hazard Areas and Associated Buffers. If there is no alternative with less impact, stormwater facilities shall be constructed as follows:
 1. Surface drainage down the face of the slope must be avoided and must be consistent with the Drainage Design and Erosion Control Manual for Thurston County 15.05 TCC, as amended. If drainage must be discharged, it shall be collected upland of the top of the slope and conveyed by tight line drain through a high-density polyethylene pipe with fuse-welded joints, or similar product that is technically equal or superior. The pipe shall be located on the surface of the ground and properly anchored so that it will continue to function in the event of an underlying slide or active erosion conditions. The stormwater shall be treated prior to release by a method that meets clean water standards and poses the least risk of destabilizing the slope (e.g. a compost filter).
 2. If drainage must be discharged to a water body below the landslide or erosion hazard area, the conveyance system described in paragraph (1) above shall include an energy dissipating device at the edge of the water body and must comply with 15.05 TCC.
 3. Surface drainage not discharged per paragraphs (1) or (2) above, must be directed away from the slope and collected in a tight line or other approved method for discharge to an acceptable natural drainage. The tight line drain should terminate at the drainage course rather than at a point upslope within the natural drainage course to avoid erosion or destabilization.

4. A maintenance and monitoring plan shall be developed for approved tight line drainages.
5. If tight lining is not possible, stormwater retention and detention systems, such as dry wells and infiltration systems (including those utilizing buried pipe, French drains, or swales), within a landslide or erosion hazard area or associated buffers shall require approval of a Reasonable Use Exception, in compliance with Chapter 24.45 TCC and 15.05 TCC. Any such system receiving approval of a Reasonable Use Exception shall be designed by a licensed civil engineer and shall include a geological assessment indicating that such a system will not affect the stability of the slope. A monitoring plan shall be required through one wet season, at a minimum, for a proposed infiltration system and the results included in the geotechnical assessment.
6. Proposals in geologic hazard areas and associated buffers located within jurisdiction of the Shoreline Management Act shall comply with the Shoreline Master Program for the Thurston Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

Repair and maintenance of existing stormwater retention, treatment and conveyance systems within a geologic hazard area or associated buffers is permitted subject to review.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.178 Utility transmission lines and facilities—New.

Installation of utility lines and facilities is permitted in existing rights-of-way and utility corridors consistent with applicable regulations (see Title 13, TCC). The alignment of underground utility transmission lines outside of existing rights-of-way shall avoid geologic hazard areas to the greatest extent possible. The approval authority may allow underground utility lines within these areas when it is determined that there are no practicable alternatives or if the utility lines will be consolidated with a road crossing or parallel to an existing utility crossing at the minimum separation distances established by the county for such uses.

- A. Utility Corridors. Utility corridor alignment, construction, restoration, and maintenance shall adhere to the following standards:
 1. Utility corridor alignment shall fall outside of geologic hazard areas and associated buffers to the maximum extent possible where it would have the least impact on the functions of the geologic hazard area and associated buffers. The approval authority may require submission of a feasibility study that demonstrates that alternative routing with less impact on the geologic hazard is not possible.
 2. The utility corridor shall have the minimum width practicable.
 3. The utility corridor alignment and utility installation shall not cause an increased risk of landslide or significant erosion that would impact other critical areas or cause public safety issue.
 4. Clearing shall be limited to the minimum necessary to locate the utility. Cutting of conifer trees greater than twelve inches in diameter (at four and one-half feet above the ground on the uphill side of the tree) shall be avoided to the maximum extent possible, consistent with the preservation of important habitats within or adjacent to the geologic hazard area.

5. The utility corridor shall provide for other necessary uses and facilities whenever possible. Conduit containing new utilities shall be sized to provide capacity for additional lines and cables.
 6. Utility corridors shall be revegetated with appropriate native vegetation, compatible with the utility facility and, whenever possible, equivalent to preconstruction densities. Restoration shall occur immediately upon completion of construction or soon thereafter under seasonal constraints or work windows established pursuant to this chapter. The applicant shall submit a performance surety consistent with Chapter 24.70 TCC to ensure that such vegetation survives or is replaced.
 7. Staging areas. Staging areas for equipment and materials shall be located outside of the geologic hazard area and associated buffers.
 8. Maintenance plan. Applicants shall submit a maintenance plan for the corridor for approval by the county consistent with the provisions of this chapter.
- B. Individual Utility Service Lines. Overhead lines or cables serving an individual use are permitted if no alternative is available, they meet state and federal requirements and do not impair the functions of the geologic hazard area or associated important habitat area. Poles supporting such lines shall be located outside of the geologic hazard area when feasible. If a pole is necessary within the geologic hazard area, it shall be located where it would be least damaging to the geologic hazard area, as determined by the approval authority.

Buried service lines serving an individual uses are permitted upon demonstration that they will not have an adverse impact on the geologic hazard area. The site shall be restored upon completion of the utility installation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.180 Vegetation removal—General.

Vegetation removal is prohibited in geologic hazard areas and associated buffers except as provided for in this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.190 Vegetation removal—Forest practices permit.

- A. Class IV Forest Practices Permits and Conversion Option Harvest Plans (COHPs) are subject to the standards of this chapter.
- B. The harvesting of trees with an approved Class II or Class III forest practices permit is subject to review and approval by Washington Department of Natural Resources and shall not be subject to the standards of this chapter.
- C. Harvesting of trees within erosion hazard areas that do not meet the definition of landslide hazard or marine bluff hazard areas may be permitted. Removal of trees within an erosion hazard area shall not result in impacts to soil stability. This may require additional soils or geotechnical reports to evaluate impacts and/or identify mitigation measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.200 Vegetation removal—Hazard trees.

The approval authority may authorize the limbing, thinning or removal of hazard trees located within a geologic hazard area or buffer provided that:

- A. The approval authority may require the applicant to submit a report from an appropriate professional(s) (certified arborist, geotechnical engineer, professional forester, etc.) that documents the hazard. The professional arborist may recommend suitable replacement trees for any trees removed pursuant to this subsection.
- B. Tree cutting is limited to limbing or crown thinning in compliance with National Arborist Association pruning standards, unless the tree has a disease that would jeopardize the survival of other trees, or felling the tree is otherwise justified by the landowner/expert to eliminate hazard trees or to otherwise protect the integrity of the bluff or slope.
- C. Trees subject to wind throw that may increase slope instability if they blow down may be removed, subject to a report from the appropriate professional(s) (e.g., certified arborist, geotechnical engineer, professional forester, etc.) to confirm that there is a risk of wind throw and that removal of the tree(s) will not decrease slope stability.
- D. The landowner shall replace any tree that is taken down in the buffer. Replacement trees shall be native, field grown, fifteen-gallon pot size, a height of four feet, and be three years old. Larger trees may be required when there are insufficient remaining trees in the buffer to ensure slope stability and prevent the creation of more hazard trees, as determined by the approval authority.
- E. To ensure survival of replacement trees, replacement shall be at a ratio of 3:1 for each tree removed. The approval authority may require that the trees be planted from October to February and that watering, maintenance, and/or monitoring plans be submitted to ensure their survival. Demarcation and protection of planted trees may be required to ensure tree survival.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.210 Vegetation removal—Noxious weeds.

Removal of noxious weeds, as defined by Chapter 16-750 WAC, under the direction of the Thurston County Noxious Weed Control Board, is permitted in geologic hazard areas and associated buffers consistent with a county approved integrated pest management plan, applicable county and state regulations, any applicable approved farm plan, and this section. Prior to requiring removal of noxious weeds within a landslide or marine bluff hazard area or associated buffer that would involve the use of motorized equipment or broadcast spraying of herbicides, the noxious weed control board staff shall consult with the resource stewardship department to evaluate alternative methods of weed removal and the associated risks to the stability of the landslide or marine bluff hazard area and buffer.

- A. Plant removal shall be performed with hand labor, including the use of hand held non-motorized tools, unless the approval authority determines that the scale of the project warrants use of small scale motorized equipment (e.g., riding mowers or light mechanical cultivating equipment) or other method (i.e., application of herbicide in accordance with state and federal law by a licensed applicator) and use of the equipment/method does not pose a significant risk to untargeted areas, slope stability, or habitat functions.

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- B. Plant removal that would expose more than five hundred square feet of soil within a landslide or marine bluff hazard area or buffer shall require submission of a plan for county approval that identifies the proposed plant removal and site restoration consistent with the provisions of this section.
- C. Erosion shall be effectively controlled and exposed areas shall be stabilized immediately following plant removal consistent with the Chapter 15.05 TCC. If the area of exposed soil lies within the landslide or marine bluff hazard area or the buffer, the exposed area shall be planted with appropriate plant species present in the area at a density that will provide complete ground cover at maturity, unless the approval authority determines that the area will revegetate naturally without jeopardizing slope stability or habitat functions.
- D. Vegetation removal shall be the minimum extent necessary; and shall not create a public safety risk.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.220 Vegetation removal—Invasive plants.

Removal of invasive plants is permitted subject to all of the following:

- A. Plant removal shall be performed such that it will not increase the likelihood of erosion or slope instability within marine bluff or landslide hazard areas and associated buffers, significantly damage untargeted vegetation, or impair any habitat functions.
- B. Plant removal shall be performed with hand labor, including the use of hand held, non-motorized tools, unless the approval authority determines that the scale of the project warrants use of small scale motorized equipment (e.g., riding mowers or light mechanical cultivating equipment) or other method (i.e., application of herbicide in accordance with state and federal law by a licensed applicator) and use of the equipment/method does not pose a significant risk to untargeted areas, slope stability, or habitat functions.
- C. Plant removal that would expose more than five hundred square feet of soil in a contiguous area within a landslide or marine bluff hazard area or buffer shall require submission of a plan for county approval that identifies the proposed plant removal and site restoration consistent with the provisions of this section.
- D. Erosion shall be effectively controlled and exposed areas shall be stabilized immediately following plant removal consistent with the Chapter 15.05 TCC. If the area of exposed soil lies within the landslide or marine bluff hazard area or the buffer, the exposed area shall be planted with appropriate plant species present in the area at a density that will provide complete ground cover at maturity, unless the approval authority determines that the area will revegetate naturally without jeopardizing slope stability or habitat functions.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.230 Vegetation removal—Other.

Other vegetation may be removed from the hazard area and associated buffer, as follows:

- A. Removal of vegetation to the minimum extent necessary for surveying or testing purposes is allowed, as determined by the approval authority.
- B. Marine Bluff or Landslide Hazard Area. The approval authority may allow the trimming or limited removal of vegetation to the minimum extent necessary to provide a view corridor, provided that view corridors are limited to a maximum width of twenty feet. The trimming of limbs on individual trees is preferred to the removal of trees. Trimming shall be limited to limbing or crown thinning in compliance with National Arborist Association pruning standards. Trimming shall not include felling, topping, or removal of trees, or jeopardizing the tree's survival. Prior to tree removal, the approval authority shall require the applicant to submit a report from the appropriate professional(s) (e.g., arborist, geotechnical engineer, professional forester, etc) to confirm that removal of the tree(s) will not increase the hazard.
- C. Erosion Hazard Areas. The applicant shall comply with TCC 24.15.090 when removing vegetation within an erosion hazard area.
- D. Other vegetation may be managed by the periodic mowing of previously cleared areas to maintain pasture vegetation or other vegetation management designed to stabilize the slope or bluff.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.15.240 Wells—New and replacement.

New or replacement wells serving an approved individual use are allowed within geologic hazard areas and associated buffers, as specified in Table 24.15-1, provided that:

- A. There is not minimally sufficient area on the property outside the hazard area and/or buffer to accommodate the well, as determined by the approval authority; and
- B. New on-site wells shall be consistent with the applicable provisions of Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies; and
- C. If a landslide or marine bluff hazard area is present on the site, the approval authority may require the applicant to demonstrate that the drilling will not destabilize the slope; and
- D. Vegetation removal shall be consistent with this chapter; and
- E. Pumphouses, wellhouses and any associated structures shall be located outside of geologic hazard areas and their associated buffers.

Table 24.15-2. Critical Facilities for Thurston County

Occupancy Category	Nature of Occupancy
IV. Essential	Hospitals and other medical facilities having surgery and emergency treatment areas
	Fire, rescue and police stations and other emergency vehicle garages
	Water treatment facilities required to maintain water pressure for fire suppression

	Designated earthquake, hurricane or other emergency shelters
	Designated emergency preparedness, communication, and operation centers and other facilities required for emergency response
	Power-generating stations and other public utility facilities required as emergency backup facilities for essential facilities
	Aviation control towers, air traffic control centers, and emergency aircraft hangars
	Structures containing sufficient quantities of toxic materials or explosive substances to be dangerous to the safety of the general public if released
	Buildings and other structures having critical national defense functions
III. Hazardous	Buildings and other structures where more than 300 people congregate in one area
	Buildings and other structures with elementary school, secondary school, or day care facilities with an occupant load > 250
	Buildings and others structures with an occupant load greater > 500 for colleges or adult education facilities
	Health care facilities with an occupant load of 50 or more resident patients but not having surgery or emergency treatment facilities
	Jails and detention facilities
	All structures with occupancy load > 5,000
	Power-generating stations, water treatment for potable water, waste water treatment facilities and other public utility facilities not included as an essential facility, above
	Buildings and other structures not included as an Essential Facility, above, containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released

Table 24.15-3. Erosion Soils of Thurston County

Soil Survey of Thurston County, 1990			
Map Symbol	Soil Name	Percent Slope	Water Erosion Hazard
4	Alderwood gravelly sandy loam	30—50%	severe

8	Baldhill very stony sandy loam	30—50%	severe
10	Baumgard loam	40—65%	severe
12	Baumgard-Pheeney complex	40—65%	severe
13	Baumgard-Rock outcrop complex	40—65%	severe
30	Dystric Xerochrepts	60—90%	severe
35	Everett very gravelly sandy loam	30—50%	severe
49	Jonas silt loam	30—65%	severe
53	Kapowsin silt loam	30—50%	severe
61	Mal clay loam	30—65%	severe
63	Mashel loam	30—65%	severe
80	Pheeney gravelly loam	30—65%	severe
81	Pheeney-Baumgard complex	30—65%	severe
82	Pheeney-Rock outcrop complex	40—65%	severe
83	Pheeney-Rock outcrop complex	65—90%	severe
91	Rainier clay loam	30—65%	severe
96	Rock outcrop-Pheeney complex	40—90%	severe
119	Tenino silt loam	30—60%	high
122	Vailton silt loam	30—65%	severe

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

6. Frequently Flooded Areas (Chapter 24.20 TCC)

24.20.005 Frequently flooded areas—Purposes.

The purposes of this section are to:

- A. Augment development standards in Chapter 14.38 TCC regarding development in flood hazard areas.
- B. Identify areas affected by natural flooding and stream channel migration and minimize the amount of development at risk in such areas in order to protect human life and safety; minimize

- damage to homes and places of business; minimize business interruptions; avoid or minimize damage to public facilities and utilities including, but not limited to, water and gas mains, electric, telephone and sewer lines, roads and bridges; and to minimize the expenditure of public funds for flood control projects, rescue and relief efforts and repair of flood damage.
- C. Preserve natural flood control by retaining the capacity of floodways to pass floodwaters and associated debris and by retaining the capacity of floodplains to store flood waters.
 - D. Restrict structures, facilities, flood loss reduction measures (including, but not limited to, hard armoring and stream channelization), grading, dredging, filling and other development in areas subject to flooding that could displace flood carrying capacity or increase flood heights or velocities.
 - E. Protect the quality and quantity of water sustaining humans, fish, shellfish and wildlife by avoiding or minimizing siltation and pollution associated with flooding. This includes, but is not limited to, prohibiting or restricting uses in flood prone areas that pose significant risks to water quality when they are inundated.
 - F. Minimize disruption of stream channel migration that forms fish and wildlife habitat by minimizing streambank stabilization and construction of new structures that would be affected by stream channel migration.
 - G. Maintain the linkages of the stream to the nutrient reserves in its floodplains.
 - H. Regulate frequently flooded areas as a critical area, pursuant to RCW 36.70A.030.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.010 Frequently flooded areas—Applicability.

The provisions of this chapter apply to frequently flooded areas and one-hundred-year channel migration hazard areas as defined in Chapter 24.03 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.015 High ground water flood hazard areas—Base flood elevation.

The base flood elevation (BFE) for high ground water flood hazard areas corresponds to the elevation of the outer edge of the high ground water flood hazard area. The map entitled "High Ground Water Flood Hazard Areas" depicts the approximate location of the high groundwater flood hazard area. The actual location of the outer edge of the flood hazard area shall be determined consistent with TCC 24.20.030 and 24.20.035, as applicable.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.020 High groundwater flood hazard areas—No development zone.

The no development zone (NDZ) is an area extending fifty feet, measured on a horizontal plane, from the outer edge of the high ground water hazard area or extending to a ground elevation two feet (vertically) above the base flood elevation, whichever is less. Development is prohibited in the no development zone.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.025 High groundwater flood hazard areas—Restricted development zone.

In situations where the no development zone is based on elevation, there may not be a restricted development zone (see Figure 24.20-1). The restricted development zone (RDZ) extends from the outer edge of the no development zone to a ground elevation two feet (vertically) above the base flood elevation, except:

- A. The approval authority may exclude areas less than two feet in elevation above the base flood elevation from the restricted development zone if the applicant's registered professional civil engineer licensed in the State of Washington demonstrates that due to drainage patterns (including the location and size of any existing culverts and ditches), topography, physical barriers, geologic conditions, hydrology, distance from the high groundwater flood hazard area or other relevant factors that the area proposed to be removed from the restricted development zone and adjacent properties will not flood. The approval authority may consult with an engineering geologist, hydrogeologist, professional engineer, or other qualified professional as necessary, at the applicant's expense, to evaluate the flooding potential of the area proposed to be removed from the restricted development zone. The county shall provide the applicant with a cost estimate and obtain their approval prior to consulting with the experts. The application may be closed if the applicant chooses not to bear the cost of the evaluation; or
- B. On sloping parcels where the topography does not reach two feet in elevation above the BFE before it falls in elevation below the base flood elevation, the approval authority shall set the outer boundary of the restricted development zone at the highest point above the base flood elevation (see Figure 24.20-2), if the applicant's registered professional engineer licensed in the State of Washington demonstrates that the area beyond has no or negligible risk of flooding. The approval authority may consult with an engineering geologist, hydrogeologist, professional engineer, or other qualified professional as necessary, at the applicant's expense, to evaluate the flooding potential of the area proposed to be removed from the restricted development zone. The county shall provide the applicant with a cost estimate and obtain their approval prior to consulting with the experts. The application may be closed if the applicant chooses not to bear the cost of the evaluation; or
- C. All new construction proposed in the restricted development zone shall comply with the provisions of this section and TCC 14.38.050.

Figure 24.20-1

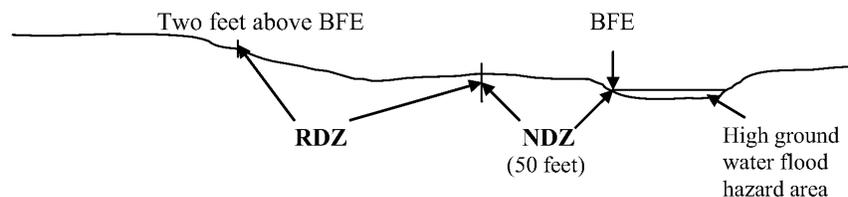
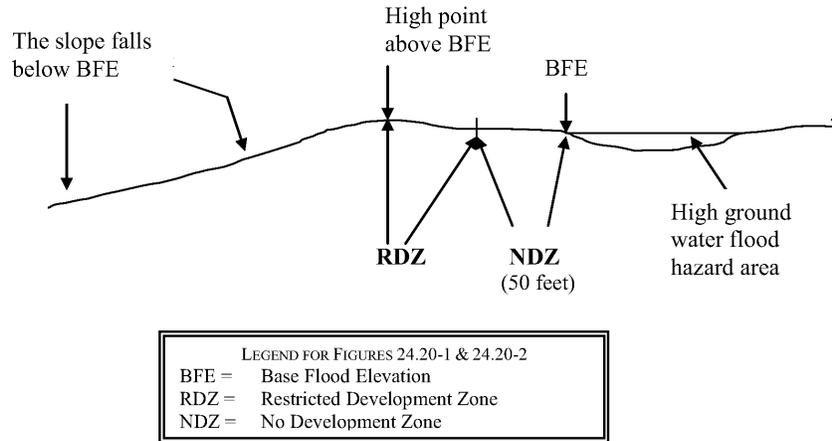


Figure 24.20-2



(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.030 High groundwater flood hazard area—Delineation.

- A. High groundwater flood hazard areas shall be delineated through a critical area review permit.
- B. Applicants for development of an existing lot shall submit the base flood elevation, prepared by a licensed land surveyor, for review and approval of the director, consistent with TCC 14.38.040, as follows:
 1. The applicant's surveyor, in consultation with the director, shall stake and flag the recommended high ground water edge in the field based on the high ground water flood hazard areas map, topography, aerial photographs of flood events and other relevant factors.
 2. After the director accepts the staked and flagged high ground water edge, the surveyor shall depict the BFE, NDZ, and RDZ on the site plan submitted to the director for review and approval.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.035 High groundwater flood hazard area—Map amendments.

- A. The high groundwater flood hazard area map shall be amended consistent with the review process and requirements specified in Chapters 24.05 and 24.91 TCC.
- B. All required hydrological studies shall be prepared by an engineering geologist or professional engineer licensed in the State of Washington with demonstrated experience, as appropriate, in hydrologic, hydrogeologic and hydraulic analysis.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.040 River, marine, lake, and coastal flood hazard areas—Map amendments.

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Map amendments of maps for frequently flooded areas that are identified on the flood insurance rate maps prepared by the Federal Insurance Administration, as supplemented by "The Flood Insurance Study for Thurston County," dated November 17, 1980 shall follow the amendment procedure in TCC 14.38.090, Map correction procedures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.045 Channel migration hazard areas—Map.

The 100-year channel migration hazard areas are generally depicted on the map entitled "channel migration hazard areas" on file with the department in the permit assistance center.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.050 Channel migration hazard areas—Map amendments.

- A. Maps of channel migration hazards areas shall be amended consistent with the review process and requirements specified in Chapters 24.05 and 24.91 TCC.
- B. The department shall periodically update the map as the county delineates or accepts delineations of 100-year channel migration hazard areas pursuant to this chapter.
 - 1. The required data must be prepared by a qualified professional proficient in fluvial geomorphology (i.e., a person who possesses a graduate degree in geology or physical geography with specialization in fluvial geomorphology and has at least two years of relevant professional experience).
 - 2. Any third party review shall be performed by a qualified professional proficient in fluvial geomorphology. Based on this evaluation, the approval authority will modify the channel migration hazard areas map if warranted.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.055 Channel migration hazards areas—Delineation—Unmapped hazard areas.

If the approval authority determines that a proposed use along a Type S or F stream is within a historic channel migration zone, based on field conditions, historic information, LIDAR imagery or aerial photography, and the one-hundred-year channel migration hazard area has not been mapped, the approval authority shall require the applicant to determine if a one-hundred-year channel migration hazard area is present on the site and, if so, delineate its location and extent.

- A. The determination as to whether the one-hundred-year channel migration hazard area affects the subject property shall be based on the findings of a qualified professional proficient in fluvial geomorphology using a reliable methodology to determine channel migration accepted by the department (e.g., as described in the Washington Department of Natural Resources' Forest Practices Board Manual, Standard Methods for identifying Channel Migration Zones and Bankfull Channel Features, dated 8/2001, as amended; or in "A Framework for Delineating Channel Migration Zones," Washington Department of Ecology, 2003, as amended). Maps delineating the one-hundred-year channel migration hazard area shall be of a scale and format specified by the department.

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- B. The following areas shall be considered outside of the one-hundred-year channel migration hazard area:
1. Areas separated from the stream channel by a legally established structure that the approval authority, in consultation with a qualified professional, determines will block channel migration. This may include, but is not limited to, dikes, levees and public roads that extend above the one-hundred-year flood elevation that are constructed to remain intact through a one-hundred-year flood. Constraints to channel migration that do not extend above the one-hundred-year flood elevation shall not be considered to limit channel migration unless demonstrated otherwise based on technical information; and
 2. Areas separated from the stream channel by a geologic feature, such as a rock outcrop, that the approval authority determines, in consultation with a qualified professional, will stop channel migration.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.060 Frequently flooded areas—Building setbacks—Coastal flood hazard areas.

- A. Coastal Flood Hazard Areas. Uses in coastal flood hazard areas are allowed landward of the reach of mean high tide, subject to the provisions of Chapter 14.38 TCC. New construction, additions affixed to the side of an existing structure, and substantial improvement of any structure with a crawl space may only be located landward of a line three feet above the regulatory tidal base flood elevation, consistent with Chapter 24.25 TCC and the Shoreline Master Program for Thurston Region.
- B. Refer to Chapter 14.38 TCC regarding crawl spaces.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.065 Floodways—Development and uses.

Encroachments, including new construction, substantial improvements, fill and other development, are prohibited within designated floodways, unless otherwise authorized by this chapter.

- A. In addition to the requirements of Chapter 24.45 TCC, a reasonable use exception for development in a floodway shall be required to demonstrate the following:
1. Hydrologic and hydraulic analyses performed by a registered professional engineer licensed in the State of Washington, that demonstrate, in accordance with standard engineering practices, that the proposed project will not result in an increase in flood levels during discharge of the base flood.
 2. New construction and substantial improvements, as defined in TCC 14.38.020 shall comply with all applicable flood hazard reduction provisions in Chapter 14.38 TCC.
- B. Recreational Vehicles.
1. Recreational vehicles parked in the floodway shall not be left unattended for more than twenty-four consecutive hours during the flood season, between November 1 and March 15; and

- 2. Travel trailers parked in the floodway shall have the wheels and tongue attached for ease and rapidity of evacuation. Only quick disconnect utilities may be used. Permanent additions to travel trailers parked in the floodway are prohibited.
- C. Temporary structures and hazardous materials shall be removed from the floodway during flood season (i.e., November 1 to March 15). If the approval authority determines that flooding is imminent and the owner is not present, they may, at the owner's expense, move the structure(s), its contents, and any vehicles to higher ground.
- D. For any approved development in the floodway, a notice shall be recorded on the property title indicating that its use is subject to Title 24 TCC and Chapter 14.38 TCC.
- E. Projects specifically designed to protect, create or restore anadromous/native fish habitat may be allowed in or along Type S and F streams without the hydrologic and hydraulic engineering analysis, if the approval authority determines that the project will not significantly obstruct flood flows or increase flood elevations. If the effect of the proposed project on flooding is in doubt, the approval authority may require that a qualified professional in the field of hydraulics review the proposed project consistent with paragraph (A)(1) above, at the applicant's expense, in order to determine if it will exacerbate flooding.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.070 Frequently flooded areas—Standards and allowable uses and activities.

Table 24.20-1 identifies the land uses and activities that are allowable in frequently flooded areas (i.e., one-hundred-year floodplains, one-hundred-year flood zone (one percent flood zone), floodways, high ground water hazard areas/restricted development zones, channel migration hazard areas, and coastal flood hazard areas) and one-hundred-year channel migration hazard areas. All land uses and activities not allowed by or not mentioned in Table 24.20-1, except water dependent uses allowed under the Shoreline Master Program for Thurston Region, are prohibited within the flood and channel migration hazard areas regulated by this section, except as otherwise provided in Chapter 24.01 TCC. In addition to this chapter, these allowable uses and activities may be subject to the following:

- A. Other applicable provisions of this title and requirements of the applicable zoning district;
- B. The provisions of Chapter 14.38 TCC, Development in Flood Hazard Areas;
- C. The Shoreline Master Program for the Thurston Region;
- D. The Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC); and
- E. All other applicable county, state, and federal regulations.

Table 24.20-1. Allowable Uses and Activities in Flood and Channel Migration Hazard Areas

Uses and Activities	Floodways	Frequently Flooded Areas (except floodways)	Channel Migration Hazard Areas	High Ground Water	Coastal Flood Hazard Areas

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		and high groundwater hazard areas)		Hazard Areas/RDZ	
Accessory structures - Construction TCC 24.20.080	X	P	P	P	P
Antenna support structures regulated by Chapter 20.33 TCC TCC 24.20.080	X	P	P	P	X
Asphalt plants	X	X	X	X	X
Boat ramp and associated vehicle access TCC 24.20.080	P	P	P	P	P
Boat site, hand launch - Construction TCC 24.20.080	P	P	P	N/A	P
Bridges and culverts - Maintenance or repair TCC 24.20.080; 24.20.140	P	P	P	A	A
Bridges and culverts - Replacement or expansion TCC 24.20.145	P	P	P	A	P
Bridges and culverts - New construction TCC 24.20.140	P	P	P	P	P
Cemeteries TCC 24.20.080	X	X	X	X	X
Clearing and grading/timber harvest in conjunction with a development project TCC 24.20.090	P	P	P	P	P
Critical facilities TCC 24.20.080	X	X	X	X	X

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Drainage ditch maintenance TCC 24.20.080	A	A	A	A	A
Drilling and testing for required report or engineering study TCC 24.20.080	A	A	A	A	A
Emergency response	SEE CHAPTER 24.90 TCC				
Existing lots approved prior to the effective of the ordinance from which this title derives - Construction of primary structures and associated, decks, garages, and appurtenant structures	X	P	P	P	P
Fences	X	A	A	A	A
Fill - Associated with a permitted use TCC 24.20.100 TCC 14.38	X	P	P	P	X
Fish hatchery construction and maintenance TCC 24.20.080	P	P	P	P	P
Floats (e.g., a floating dock, mooring buoy, navigational aid, and swimming float) - Installation TCC 24.20.080	P	X	X	N/A	A
Flood protection facilities - New construction TCC 24.20.080	P	P	P	P	X
Flow control facilities/dams - New construction TCC 24.20.080	P	P	P	P	X
Forestry - Conversion Class IV forest practice TCC 24.20.080	P	P	P	P	P

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Gardens for personal consumption - New and expanded TCC 24.20.080	A	A	A	A	A
Golf courses TCC 24.20.080	X	P	P	P	P
Habitat restoration/enhancement TCC 24.20.080	P	P	P	P	P
Hazardous substances TCC 24.20.120	X	X	P	X	X
Hazardous substances - Residential Scale TCC 24.20.120	P	P	P	P	P
Infiltration of reclaimed water (application to the land's surface above agronomic rates)* TCC 24.20.132 *Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).	X	X	X	X	X
Instream structures - Maintenance or repair TCC 24.20.080	A	A	N/A	A	A
Instream structures not addressed above - New construction TCC 24.20.080	P	N/A	N/A	P	N/A

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Lawfully established existing uses	A	A	A	A	A
Lawns, landscaping, golf courses, and cemeteries - Maintenance TCC 24.20.080	A	A	A	A	A
Marine railway TCC 24.20.080	X	P	P	N/A	P
Mineral extraction TCC 24.20.080	X	X	X	P	X
Mitigation required by the County TCC 24.20.080	P	P	P	P	P
Nonconforming structure/use - Maintenance, repair, alteration, expansion, intensification, or replacement	SEE CHAPTER 24.50 TCC				
On-site sewage disposal system - New TCC 24.20.130	X	X	P	X	X
On-site sewage disposal system, drainfield, or well/pump - Maintenance or repair TCC 24.20.130	P	P	A	A	A
Open space (e.g., critical area tract)	A	A	A	A	A
Piers - Construction TCC 24.20.080	P	P	X	N/A	A
Ponds - New creation <1 acre TCC 24.20.080	X	P	P	P	X
Public facility TCC 24.20.080	X	X	X	X	X
Public park facilities, trails and developed recreation areas -	A	A	A	A	A

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Maintenance TCC 24.20.080					
Public project of significant importance TCC 24.20.080	X	X	X	X	X
Recreation (outdoors) - Passive and low impact activities (e.g., bird watching, boating, bicycling, canoeing, fishing, hiking, horseback riding, hunting, jogging, photography, swimming, and similar activities)	A	A	A	A	A
(Active) Recreation facilities (e.g., swimming access, public and private parks, day camps and camping sites not including structures) TCC 24.20.080	X	P	P	P	P
Research (e.g., education, scientific, and site investigation) TCC 24.20.080	A	A	A	A	A
Residential - Single-family home, new TCC 24.20.135	X	X	P	P	X
Roads/railroads - Repair and maintenance TCC 24.20.080	A	A	A	A	A
Roads/railroads - Replacement of lawfully established roads/railroads within maintained, improved (paved or railroad tracks) road rights- of-way or easements, or railroad prism TCC 24.20.145	P	P	P	A	A
Roads - Expansion TCC 24.20.080	P	P	P	P	P

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Roads - New construction, including private access TCC 24.20.140	P	P	P	P	P
Scientific sampling TCC 24.20.080	A	A	A	A	A
Shoreline protective structures/armoring (e.g., bulkhead, gabion, riprap, or wall) TCC 24.20.080	P	P	P	P	P
Signs (e.g., interpretation, critical area tract, and survey markers,)	A	A	A	A	A
Ski lake - Creation TCC 24.20.080	X	P	P	A	A
Slope stabilization or retaining wall (not a bulkhead) TCC 24.20.080	P	P	P	P	P
Stabilization techniques (nonstructural)/bioengineering TCC 24.20.080	P	P	P	P	P
Stair lower, stairway or mechanical lift TCC 24.20.080	X	P	X	P	P
Stormwater conveyance system or detention/treatment facility - Maintenance or repair TCC 24.20.150	P	A	A	A	A
Stormwater retention/treatment facility - Construction TCC 24.20.150	X	P	P	P	X
Stormwater - Sediment control ponds (temporary) - Construction TCC 24.20.150	X	P	P	P	P

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Stormwater - Surface water conveyance system - Construction TCC 24.20.150	P	P	P	P	P
Stream flow and elevation gages - Installation	A	A	A	A	A
Stream relocation (see Chapter 24.25 TCC)	P	P	P	P	P
Subdivisions (see Chapter 24.55 TCC)	P	P	P	P	P
Trails/paths, elevated walkways, and associated facilities - New construction (interpretative site and viewing platform) TCC 24.20.080	P	P	P	P	P
Utility facilities and lines - Maintenance or repair TCC 24.20.080	A	A	A	A	A
Utilities - Replacement TCC 24.20.080	P	P	P	P	P
Utility transmission lines - New construction outside of existing improved roads and utility corridors and new utility corridors TCC 24.20.165	P	P	P	P	P
Utility lines in improved roads and utility corridors and easements - New installation or replacement TCC 24.20.165	P	A	P	A	A
Utility service lines - Installation TCC 24.20.165	P	A	A	A	A
Utility facility - New facilities such as lift stations,	X	P	X	P	P

substations and utility poles TCC 24.20.165					
Vegetation removal - Enhancement projects TCC24.20.170	P	A	P	A	A
Vegetation removal - Noxious weeds TCC 24.20.170	A	A	A	A	A
Vegetation removal - Invasive vegetation TCC 24.20.170	P	P	A	A	A
Vegetation removal - Hazard trees TCC 24.20.170	P	P	P	P	P
Vegetation removal - Aquatic weeds TCC 24.20.170	P	N/A	N/A	N/A	N/A
Wells - New construction TCC 24.20.180	X	P	P	P	X
Wildlife blind or nesting structure	A	A	A	A	A
Uses allowed in the applicable zoning district/shoreline master program not listed elsewhere in this table	X	X	X	P	A

LEGEND:

A = Allowed, subject to applicable standards

P = Allowed, subject to applicable standards and Critical Areas Review Permit

X = Prohibited

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, §§ 2(Att. B), 5(Att. E), 12-17-2013)

24.20.080 Frequently flooded areas—General standards.

The following requirements apply, as applicable, to all uses and activities listed in Table 24.20-1.

- A. Applications to undertake a use or activity within frequently flooded areas or a 100-year channel migration hazard area shall contain all information necessary to evaluate the proposed activity, its

- impacts, its compliance with the applicable provisions of this chapter and Chapter 14.38 TCC, Development in Flood Hazard Areas.
- B. All development in frequently flooded areas and one-hundred-year channel migration hazard areas shall be designed to avoid habitat degradation, consistent with Chapter 24.25 TCC, Fish and Wildlife Habitat Conservation Areas.
 - C. Development in frequently flooded areas shall be designed so it does not increase flood hazards, except as provided for in this section and Chapter 14.38 TCC.
 - D. The approval authority shall deny proposed developments and uses if it is determined that they would require structural flood hazard reduction measures including, but not limited to, channeling the floodway or creating a new impact upstream or downstream at the time of construction/implementation or anytime thereafter, except as provided for in Chapter 24.25 TCC.
 - E. Excavation and development shall be prohibited in the one-hundred-year floodplain of Type S and F streams if the approval authority determines that it would cause significant dewatering of the hyporheic zone (the saturated zone located beneath and adjacent to streams with subsurface flow between surface water and the water table), block ground water flow or significantly inhibit recharge of the hyporheic zone. The approval authority may require the applicant to submit data as necessary to determine if excavation, soil compaction, or impervious surfaces associated with the project would cause significant, detrimental disruption to the ground water system.
 - F. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside of frequently flooded areas or usages permitted within such areas will not be subject to flooding or flood damage. This chapter shall not create liability on the part of Thurston County, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.085 Biosolid application.

Biosolid application and uses shall be regulated by the Washington Department of Ecology and meet all applicable federal and state standards, including Chapter 173-308 WAC; and be consistent with a memorandum of agreement (MOA), or similar document, between Thurston County and the Washington Department of Ecology in regard to biosolids and critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.090 Frequently flooded areas—Clearing and grading.

Clearing and grading within frequently flooded areas, channel migration hazard areas, and in the restricted development zone associated with high groundwater flood hazard areas is only allowed in conjunction with a use permitted pursuant to this chapter if it complies with all of the following:

- A. Clearing and grading are the minimum necessary to accommodate the permitted use, as determined by the approval authority.

- B. The soil duff layer shall remain undisturbed to the maximum extent practicable. In areas that are disturbed during construction but will not be covered by impervious surfaces, the moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction, by amending the soil with compost (consistent with TCC 24.20.100) or by stripping, stockpiling and reapplying the topsoil. Where feasible and appropriate, as determined by the approval authority, graded soil shall be redistributed to disturbed areas on the project site, provided it does not increase the flood elevation and complies with other applicable provisions of this chapter and Chapter 14.38 TCC.
- C. The clearing limits shall be marked with a temporary fence authorized by the County.
- D. Clearing and grading shall only occur between May 1 and September 30. The County may temporarily suspend grading during this period if excessive rainfall could cause erosion and sedimentation that would affect a wetland or water body. The County may allow clearing and grading outside of this period if all drainage will flow away from all potentially affected wetlands and water bodies, remain on site and the site is stabilized per Chapter 15.05 TCC.
- E. Clearing in channel migration hazard areas. See Chapter 24.25 TCC regarding clearing restrictions in riparian management zones.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.100 Frequently flooded areas—Fill.

- A. High Ground Water Flood Hazard Areas.
 - 1. No fill may be placed within a designated high groundwater flood hazard area or no development zone, except to the minimum extent necessary, as determined by the approval authority, to elevate existing access roads serving existing, developed lots to the base flood elevation. Any such fill material shall be stabilized consistent with TCC Section 14.38.050(A)(5).
 - 2. Fill may be used in the restricted development zone as follows:
 - a. The approval authority may approve balanced cut and fill to the minimum extent necessary for construction of an approved use listed in Table 24.20-1, if a professional civil engineer licensed in the State of Washington demonstrates that the fill or grading will not block natural drainage or increase flood hazards on or offsite.
 - b. Fill may be used to the minimum extent necessary, as determined by the approval authority, to construct a road to access essential public facilities or primary structures if no less damaging or hazardous alternative location exists for the access road outside of the restricted development zone. The access road's surface shall be constructed to an elevation equal to the base flood elevation.
 - c. The approval authority may allow the road to be elevated up to two feet above the base flood elevation provided arched, bottomless culverts will be installed to allow passage of water and the applicant's professional civil engineer licensed in the State of Washington demonstrates that flooding will not be increased offsite or inundate structures.
 - d. Fill material authorized pursuant to this section and any subsequent stabilization shall be such that the fill is stable during flooding, consistent with TCC Section 14.38.050(A)(5).

- B. Floodplain. The approval authority may only approve balanced cut and fill with compensatory flood storage within the 100-year floodplain, landward of the floodway, to the minimum extent necessary for construction of an approved use listed in Table 24.20-1 or to provide access to essential public facilities, if a qualified professional engineer licensed in the State of Washington and a qualified wildlife habitat biologist demonstrate that there is no other alternative method for constructing the proposed use and that such grading and filling will not block stream side channels, increase flood hazards, inhibit channel migration or degrade important habitats (see Chapter 24.25 TCC), and that the proposal meets the requirements of Chapter 14.38 TCC. Applications for balanced cut and fill with compensatory flood storage shall include a winter water study.
- C. Coastal Flood Hazard Areas. Fill for structural support of buildings is prohibited in coastal high hazard areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.20.110 Frequently flooded areas—Flood hazard reduction.

Proposals for flood hazard reduction shall be consistent with Chapter 24.25 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.120 Frequently flooded areas—Hazardous facilities and materials.

- A. Storage of hazardous materials, sewage sludge, fertilizers, pesticides, herbicides, or chemical or biological substances defined as a hazardous/dangerous waste in Chapter 173-303 WAC, or any other substances, solids or liquids in quantities regulated by TCC 24.10.140, shall be stored out of floodways and above the one-hundred-year flood elevation consistent with Chapter 14.38 TCC where they are at least risk of being inundated with floodwater, consistent with Chapters 173-303 WAC and 173-360 WAC, Chapter 14.32 TCC, International Fire Code, and Article VI of the Rules and Regulations of the Thurston County Board of Health Governing Nonpoint Source Pollution.
- B. The director may require removal of temporary staging areas or stockpiles of equipment, materials or substances in the floodway and/or floodplain between November 1 and March 15 if it is determined that such use or activity is hazardous to the public health, safety or welfare.
- C. Use and storage of hazardous materials at typical residential scale are allowed for legally approved residential uses, subject to applicable sections of the Thurston County Code and Thurston County Sanitary Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.130 Frequently flooded areas—New on-site sewage disposal systems.

- A. New on-site sewage disposal systems shall be located outside the one-hundred-year floodplain, floodway, coastal high hazard areas, and high ground water flood hazard areas, including the no development and restricted development zones. This may require systems that provide a higher level of sewage treatment. The sewage disposal system shall be located as far from the frequently flooded area as possible. Also see Article IV, the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage, and WAC 173-160-171.

- B. New on-site sewage disposal systems shall be located outside the one-hundred-year channel migration hazard area, except as provided in Chapter 24.50 TCC. This may require systems that provide a higher level of sewage treatment. The sewage disposal system shall be located as far from the frequently flooded area as possible. Also see Article IV, the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage, and WAC 173-160-171.
- C. Failing on-site sewage disposal systems shall be immediately remedied consistent with the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage, Chapter 14.38 TCC, and, if applicable, Chapter 24.25 TCC. The approval authority may require the applicant to demonstrate that due to physical constraints (e.g., topography, soil conditions or the configuration of the site), another site configuration would not allow the development to occur without intrusion or with less intrusion into the hazard area than the proposal.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.132 Frequently flooded areas—Reclaimed water.

Section reserved for future critical area reclaimed water regulations. Critical area regulations will be proposed when more information is available to Thurston County from the regional groundwater recharge scientific study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.135 Frequently flooded areas—Residential—Single-family homes.

- A. Residential and accessory structures, and typical residential-scale activities are prohibited, except as allowed under Chapters 24.50 and 24.55 TCC, this chapter, and other applicable sections of the Thurston County Code and Thurston County Sanitary Code. Onsite septic systems, including those associated with residential uses, are addressed in TCC Section 24.20.130. Gardens for personal consumption are permitted as consistent with Table 24.20-1.
- B. Use and storage of hazardous materials at typical residential scale are allowed for legally approved residential uses, subject to applicable sections of the Thurston County Code and Thurston County Sanitary Code.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.20.140 Frequently flooded areas—Roads, bridges and culverts.

- A. New roads, bridges, and culverts shall be designed to minimize interruption of the downstream movement of wood and gravel, minimize fill, and allow passage of one-hundred-year flood flows and associated debris. Bridge piers and abutments shall not be placed in either the floodway or between the stream's ordinary high water marks unless there is no alternative placement, the placement results in zero increase in the backwater elevation or increase in downstream hazards during the one-hundred-year flood, and the placement minimizes habitat degradation. (See Chapter 24.25 TCC regarding road alignments in riparian habitat areas.)
- B. Clearing of culverts does not require a critical area permit, though state and federal permits may still be required. Clearing of culverts shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet.

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(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.145 Frequently flooded areas—Roads, bridges and culverts—Replacement.

Replacement of a road, bridge or culvert is allowed if necessary to conform to current standards and if:

- A. It was lawfully established;
- B. There is not another alternative available that has less adverse impact on the frequently flooded area;
- C. The bridge or culvert is designed to avoid or, where that is not possible, minimize impacts to the frequently flooded area and it is in compliance with Chapter 14.38 TCC.
- D. The replacement is consistent with the provisions of TCC 24.25.130.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.150 Frequently flooded areas—Stormwater retention, treatment, and conveyance facilities.

- A. Maintenance and repair of existing stormwater retention, detention, treatment, and conveyance systems is permitted.
- B. New stormwater facilities and swales proposed to store, treat and/or convey stormwater may be constructed consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), and Chapter 24.25 TCC.
- C. Temporary sediment ponds are allowed in the RDZ associated with high ground water hazard areas between March 16 and October 31. Temporary ponds may be located in other flood and channel migration hazard areas during this same time period if they comply with Chapter 24.25 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.160 Frequently flooded areas—Timber harvest.

The approval authority may authorize the cutting of hazard trees in floodways, one-hundred-year floodplain, coastal high hazard areas, and one-hundred-year channel migration hazard areas consistent with Chapters 24.25 and 14.38 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.165 Frequently flooded areas—Utilities.

- A. New Utility Lines and Facilities in Rights-of-Way. Installation of utility lines and facilities is permitted in existing rights-of-way within frequently flooded areas, channel migration hazard areas and associated buffers, consistent with applicable regulations (see Title 13 and 14, TCC) and the provisions of this chapter. When possible, given physical and technical constraints, utility installation shall occur on the side of the utility corridor or road furthest from the hazard area. In the event that other critical areas are present, the approval authority, in consultation with others with expertise, shall determine where the proposed facilities would have the least impact on the

critical areas and associated buffers. Mitigation of any impacts may be required consistent with the provisions of this title.

B. Individual Service Lines.

1. Overhead lines and cables serving an individual use are permitted in frequently flooded areas, channel migration hazard areas, and their associated buffers if:
 - a. They meet state and federal requirements;
 - b. The alignment has the least impact on the critical area and buffer;
 - c. They do not adversely impact anadromous fish; and
 - d. The alignment meets the requirement of Chapter 14.38 TCC.
2. Buried service lines serving an individual use are permitted in frequently flooded areas and associated buffers, with the exception of floodways, consistent with this chapter. The construction of utility service lines shall not have more than a temporary adverse impact. The site shall be restored upon completion of the installation.

C. New Transmission Lines/Utility Corridors.

1. Where possible, new transmission and distribution lines, and cables crossing frequently flooded areas or buffers shall be contained within an existing roadbed, railroad bed, bridge, elevated walkway, conduit, or other disturbed area where they would have the least adverse impact. If the utility lines will be consolidated with or parallel to an existing utility crossing, they shall be located at the minimum separation distances established by the county for such uses, so long as the minimum distances so established also meet the applicable industry, state and national gas and electric safety standards.
2. The approval authority shall not authorize a new utility corridor within a frequently flooded area or channel migration hazard area unless the applicant demonstrates that there is no alternative available outside the critical area. When proposing to cross frequently flooded areas and channel migration hazard areas, the applicant shall demonstrate to the approval authority's satisfaction that the crossing is essential and there is no alternative alignment or crossing method. This shall include identification of the alternative alignments, crossing methods (including boring), their feasibility, and potential impacts.
3. When it is necessary to cross a frequently flooded area or channel migration hazard area, the corridor shall be in compliance with the following standards:
 - a. The corridor shall be aligned where it would have the least impact. Where crossing is permitted, the least damaging alternative method and alignment shall be used, including the minimum width practical.
 - b. The utility corridor shall provide for other necessary uses and facilities whenever possible. Conduit containing new utilities shall be sized to provide capacity for additional lines and cables in the future when feasible.

- c. If the approval authority determines that overhead lines or lines buried in trenches would be detrimental to dependent fish or wildlife, the proposed crossings shall, when physically feasible, be accomplished by boring beneath the critical area. Entrance and exit portals shall be located outside of the critical area, if possible. Bore pits shall be restored upon project completion.
- i. If trenching or boring is proposed to be used to accommodate utility lines, the applicant shall evaluate its effect on the flow of groundwater. As determined by the review authority, the applicant may be required to submit a hydrological study to determine whether ground water flows would likely be altered to the detriment of the frequently flooded area. The approval authority may call upon technical experts as needed, at the applicant's expense, to evaluate the report.
- ii. Trenching and boring shall not be required/allowed if it would interrupt the ground water connection to the extent that the stream or dependent wildlife would be damaged.
- d. Utility corridors shall be revegetated with appropriate native vegetation, at not less than preconstruction densities. Restoration shall occur immediately upon completion of construction or as soon thereafter as possible due to seasonal constraints or work windows established pursuant to this chapter. The applicant shall submit a performance surety consistent with Chapter 24.70 TCC to ensure that the planted vegetation survives or is replaced.
- e. Staging areas for equipment and materials shall be located outside of the critical area and buffer.
- f. Applicants shall submit a maintenance plan for approval by the county consistent with the provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.170 Frequently flooded areas—Vegetation removal.

Harvesting of plants and plant materials is permitted in flood hazard and channel migration hazard areas consistent with Chapters 24.25 and 24.30 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.20.180 Frequently flooded areas—Wells.

New wells shall be located outside the one-hundred-year floodplain, floodway, coastal high hazard areas, high ground water flood hazard areas, and the high ground water flood hazard area no development zone. Within one-hundred-year channel migration hazard areas, new wells are permitted, subject to Chapter 24.50 TCC. Wellheads shall be located a minimum of two feet above base flood elevation. The well and all approved appurtenances shall be located as far from the frequently flooded area as possible. Also see WAC 173-160-171.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

Fish and Wildlife Habitat Conservation Areas (Chapter 24.25 TCC)

24.25.005 Purposes.

The purposes of this section are to:

- A. Protect habitat and healthy functioning ecosystems to support viable populations of priority and locally important fish, wildlife, and plants in Thurston County.
- B. Preserve the functions and values of locally important habitat.
- C. Protect the functions and values of priority habitats such as, but not limited to, prairies, Oregon white oak, and riparian areas along streams and marine waters.
- D. Protect the function and values of marine habitats, including shellfish beds harvested for commercial use or personal consumption.
- E. Provide for connectivity among fish and wildlife habitats.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.010 Applicability.

All property within unincorporated Thurston County containing fish and wildlife habitat conservation areas as defined and provided for in Chapter 24.03 TCC and/or associated buffers and additional areas identified by this chapter are subject to this title. Fish and wildlife habitat conservation areas are typically identified either by known point locations of specific species or by habitat areas or both. The presence of a fish and wildlife habitat conservation area and/or buffer on a parcel triggers the requirements of this chapter, regardless of whether or not the habitat conservation area has been mapped.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.015 Riparian habitat areas.

[Not incorporated]

24.25.020 Standard freshwater riparian habitat area width.

[Not incorporated]

24.25.025 Reduced riparian habitat area width.

[Not incorporated]

24.25.030 Increased riparian habitat area width.

[Not incorporated]

24.25.035 Reconfiguration of riparian habitat areas.

[Not incorporated]

24.25.040 Riparian management zones.

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[Not incorporated]

24.25.045 Important marine habitats.

[Not incorporated]

24.25.050 Marine riparian habitat.

[Not incorporated]

24.25.055 Marine riparian management zone.

[Not incorporated]

24.25.060 Ponds and lakes.

Note: Most ponds will contain lake fringe wetlands or be considered high groundwater hazard areas regulated under Chapters 24.20 and 24.30 TCC.

- A. Applicability. This section applies to ponds between one thousand square feet and twenty acres in surface area and their submerged aquatic beds that provide fish or wildlife habitat. Lakes shall be regulated by the Shoreline Master Program for the Thurston Region (1990).
- B. Pond buffers shall be one hundred feet. Buffer widths shall be measured on a horizontal plane, outward from the OHWM or, if the OHWM cannot be identified, from the top of the bank. These buffers shall be maintained in an existing native vegetated or natural condition, except as explicitly authorized by this chapter.
- C. Buffer Reduction. The approval authority may allow the buffer width to be reduced to a minimum of seventy-five feet if the applicant demonstrates that the adjacent land use will not generate pollutants, sediment, or excess nutrients (e.g., nitrogen and phosphorus); elevate water temperature; or significantly alter the pH of the water body and that BMPs will be employed to prevent impairment of water quality in the lake or pond.
- D. Increased Buffer. The width of the buffer shall be increased where there are steep slopes, landslide hazard areas, or inadequate vegetation to protect water quality as provided for in TCC 24.25.030.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.065 Important habitats and species.

Important animal and plant species, their habitats of primary association, and other important habitats protected under this chapter are:

- A. Federally Listed Species and Associated Habitats. Animal and plant species listed under the federal Endangered Species Act (64 FR 14307) as endangered, threatened, or candidates for listing and their habitats of primary association. (Consult the U.S. Fish and Wildlife Service and National Marine Fisheries Service for current listings.)
- B. State Listed Species and Associated Habitats.

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1. Priority species and their habitats of primary association. Priority species identified on the WDFW Priority Habitats and Species (PHS) List and their habitats of primary association. (Consult the state department of fish and wildlife for the current PHS list).
2. Priority habitats. Priority habitats identified on the WDFW Priority Habitats and Species (PHS) List. (Consult the state department of fish and wildlife for the current PHS list).
3. Prairies meeting the following criteria are priority habitats:
 - a. Prairie habitat, as defined in Chapter 24.03 and Table 24.25-4 TCC;
 - b. Areas less than one acre in size with characteristics meeting the definition of prairie habitat which are functionally connected to another prairie habitat located within one-half mile of the subject area.
4. Oregon white oak (*Quercus garryana*) woodlands, stands, and individual trees meeting the following criteria are subject to this section:
 - a. Oak woodlands, as defined in Chapter 24.03 TCC.
 - b. Oak Savanna, as defined in Chapter 24.03 TCC.
 - c. Individual oak trees and stands of oak or oak conifer associations less than one acre in size that are located within one-half mile of a stand meeting the criteria in this subparagraph.
5. State listed plant species, such as those occurring on the Department of Natural Resources' List of Known Occurrences of Rare Plants.
- C. Habitats and Species of Local Importance.
 1. Habitats of Local Importance. Habitats of local importance in Thurston County are listed in Table 24.25-4 in Appendix 24.25-1.
 2. Species of Local Importance. Wildlife species of local importance are listed in Table 24.25-5 in Appendix 24.25-1.
 3. In addition to requirements of Chapter 24.91 TCC, adding or removing habitats and species of local importance is subject to the following:
 - a. Submission requirements. This chapter must be amended to add or remove a habitat or species of local importance. Any request to add or remove a habitat or species shall be submitted, in writing, to the resource stewardship department and must include the following information:
 - i. The nominator's name, address, and contact information;
 - ii. The common and scientific names of the nominated species or habitat;
 - iii. Reasons, supported by best available science, why the habitat or species should be added or removed for the list of locally important habitats or species.
 - iv. Maps or inventories of known occurrences of the nominated habitat or species within the county, dates of observation of the species and contact information for observers;

- v. Habitat management recommendations, based upon best available science, including potential uses and restrictions of the habitat; seasonally sensitive areas and other measures necessary for the protection of dependent species; and
 - vi. Other supporting documentation that the approval authority determines is necessary to make a decision regarding the request.
- b. The approval authority shall evaluate the request and supporting data, with consideration of this subsection, in consultation with a professional biologist knowledgeable regarding the subject species or habitat. Staff will forward their recommendation about the requested addition or removal to the board of county commissioners as part of the proposed docket of code amendments. The county evaluation of the request will, at a minimum, consider:
- i. The scientific validity of the information submitted;
 - ii. The sufficiency of the habitat to sustain the species over time; and
 - iii. The versatility of the habitat to sustain species other than the one being nominated for designation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.070 Tree protection.

In order to protect the root systems of protected trees, trees within important habitat areas with drip lines that extend beyond the landward edge of the marine riparian habitat area, riparian habitat area, habitat areas for species of concern, or other habitats protected under this chapter shall be protected as follows.

- A. A tree protection area extending a minimum of five feet beyond the dripline of conifer trees twelve inches or greater in diameter (at four and one-half feet above the ground), stands of trees, and Oregon white oak, shall be established and protected from disturbance during site development. The approval authority may require that the protection area be extended for oak trees if necessary to ensure the trees' survival, based upon a recommendation of an arborist or urban forester.
- B. Tree protection areas shall be identified on all applicable site development and construction drawings submitted to the county.
- C. Temporary fencing at least thirty inches tall shall be erected in areas of activity along the perimeter of the tree protection areas prior to the initiation of any clearing or grading. The fencing shall be posted with signage clearly identifying the tree protection area. If the perimeter of the tree protection area is more than 0.25 miles in length, the perimeter of the protection area may be staked and flagged rather than fenced. The fencing or stakes shall remain in place throughout site development.
- D. Clearing, grading, filling or other development activities are prohibited within the tree protection area.
- E. Vehicle travel, parking and storage of construction materials and fuel is prohibited in tree protection areas.

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- F. The county may approve the use of alternate tree protection techniques that provide an equal or greater level of protection.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.075 Important habitats and species—Identification and buffers.

- A. Applications for uses and activities on sites containing a habitat or species subject to this section shall include a critical area report (see Chapter 24.35 TCC) prepared by a qualified professional that evaluates the potential impacts of the proposed use or activity on the habitat and/or species, as applicable. The process for determining whether critical area reports are required, and the extent of information required is outlined in Chapter 24.05.027 TCC. Critical area reports that pertain to important habitats and species may also be referred to as habitat management plans.
- B. The approval authority shall establish buffers for the habitat or species on a case-by-case basis, in consultation with the WDFW or others with expertise, based on the critical area report and the WDFW management recommendations for Washington's priority habitats and species, if available. The buffers shall reflect the sensitivity of the specific habitat(s) and/or species to be protected.
- C. No clearing, grading, or other activity shall occur prior to approval by the review authority.
- D. **Prairie Habitat.** The approval authority, in consultation with the WDFW and DNR Natural Heritage Program, shall establish buffers for prairie habitat that extend outward from the outer boundary of the habitat the greater of fifty feet, measured on the horizontal plane, or the minimum distance recommended in the critical area report, whichever is greater. When setting the buffer width, the approval authority shall consider the recommendation and supporting rationale in the applicant's critical area report and the following:
1. The habitat functions and their sensitivity to disturbance, the risk that the adjacent proposed land use poses for those functions (e.g., from noise, light, stormwater runoff, introduction of invasive or non-native plant species, pesticides, herbicides, and domestic animals) and, if applicable,
 2. The minimum buffer width necessary to protect adjacent properties from fire management practices on prairies. If fire is included within the critical area report as a management element for prairie habitat, the applicant shall:
 - a. Submit a fire management plan to the Thurston County Fire Marshal and the appropriate fire district for technical review and approval; and
 - b. Notify the Thurston County Fire Marshal and the appropriate fire district prior to setting fires as part of the fire management plan.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.080 Standards and approvable uses and activities within important habitats.

The land uses and activities listed in Table 24.25-3 are allowed in important habitats (i.e., streams; riparian habitat areas; lakes, ponds and associated buffers; priority habitats, habitats and species of local importance; priority species conservation areas, and important marine habitats) and associated buffers and management zones subject to the standards in TCC 24.25.090—24.25.420, the applicable zoning district

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and the Shoreline Master Program for the Thurston Region. Water dependent uses allowed by the Shoreline Master Program are permitted subject to the requirements of that program and this chapter. All other land uses and activities not allowed by Table 24.25-3 are prohibited within the important habitats regulated by this chapter.

The general standards listed in TCC 24.25.090 apply to all uses in Table 24.25-3. Standards provided in TCC 24.25.100—24.25.420 apply to specific uses in areas where important habitats and species exist, and are in addition to other requirements of this title. Table 24.25-3 contains the primary section references for each activity covered by this chapter.

Table 24.25-3. Approvable Uses and Restrictions Within Fish and Wildlife Habitat Conservation Areas

Uses and Activities	Riparian Habitat Areas	Riparian and Marine Management Zones	Streams	Ponds and Buffers	Marine Habitat Areas and Buffers	Important Species and Habitats
Asphalt plants (TCC 24.25.240)	X	P	X	X	X	X
Boat launch site (hand launch) - New construction (TCC 24.25.110)	P	N/A	P	P	P	X
Boat ramp, or marine railway and associated vehicle access (TCC 24.25.110)	P	N/A	P	P	P	X
Bridges and culverts - Maintenance and repair by a governmental agency (TCC 24.25.120)	A	A	A	A	A	A
Bridges and culverts - Maintenance and repair by a nongovernmental entity (TCC 24.25.120)	P	P	P	P	P	P
Bridges and culverts - Replacement and expansion (TCC 24.25.130)	P	P	P	P	P	P
Bridges and culverts - New construction	P	P	P	P	P	P
Clearing and grading in conjunction with an approved	P	A	X	P	P	P

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development project (TCC 24.25.140)						
Critical facilities	P	P	X	P	P	P
Drainage ditch maintenance (TCC 24.25.150)	A	A	P	A	A	A
Drilling and testing for required report or engineering study - hand powered tools; scientific sampling, research and other low impact site investigation (TCC 24.25.160)	A	A	A	A	A	A
Drilling and testing for required report or engineering study - Mechanized equipment (TCC 24.25.160)	A	A	P	A	A	A
Emergency temporary authorization	SEE CHAPTER 24.90 TCC					
Enhancement/restoration - Streams (TCC 24.25.180)	P	N/A	P	N/A	N/A	P
Enhancement - Riparian habitat (TCC 24.25.180)	P	N/A	N/A	N/A	P	P
Enhancement - Priority upland habitat (TCC 24.25.180)	P	P	N/A	P	P	P
Existing lots vested prior to July 24, 2012 - Development	SEE CHAPTER 24.50 TCC					
Fences	SEE CHAPTER 24.60 TCC					
Fish hatchery construction and maintenance (TCC 24.25.190)	P	P	P	P	P	P
Floats, floating dock, mooring buoy, navigational aid -	X	N/A	P	P	P	X

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Installation (TCC 24.25.110)						
Flood protection facilities - New construction (TCC 24.25.200)	P	N/A	P	N/A	P	P
Flow control facilities/dams - New construction (TCC 24.25.200)	P	N/A	P	N/A	N/A	P
Forestry - Class IV forest practices and COHP	X	P	X	X	X	X
Gardening for personal consumption (TCC 24.25.230)	A	A	X	A	A	A
Golf course, new (TCC 24.25.275)	X	P	X	X	X	X
Infiltration of reclaimed water (application to the land's surface above agronomic rates)* * Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW). (TCC 24.25.265)	X	X	X	X	X	X
Instream structures (e.g., stream flow control facilities/dams) - Maintenance or repair (TCC 24.25.210)	N/A	N/A	A	N/A	A	N/A

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Instream structures or instream work not otherwise addressed - New construction (TCC 24.25.200)	P	N/A	P	N/A	P	P
Intensive uses (TCC 24.25.220)	P	P	P	P	P	P
Lawns, landscaping, golf courses, and cemeteries - Maintenance (TCC 24.25.230)	A	A	X	A	A	A
Mineral extraction (TCC 24.25.240)	X	P	X	X	X	X
Mitigation required by the county	A	A	A	A	A	A
Nonconforming structure/use - Maintenance, repair, alteration, expansion, replacement	SEE CHAPTER 24.50 TCC					
On-site sewage disposal system or drainfield, well/pump - Repair (TCC 24.25.260)	P	A	X	P	P	P
On-site sewage disposal system or drainfield - New/replacement (TCC 24.25.250; 260)	P	A	X	P	P	P
Open space (e.g., critical area tract)	A	A	A	A	A	A
Piers - Construction (TCC 24.25.110)	X	N/A	X	P	P	X
Public park facilities, trails and developed recreation areas - Maintenance (TCC 24.25.230; 270)	A	A	A	A	A	A
Public facilities	X	P	X	X	X	X

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Public project of significant importance	P	P	X	X	P	P
Recreation, active (TCC 24.25.275)	X	P	X	P	P	X
Recreation, passive and low impact activities (e.g., bird watching, nonmotorized boating, bicycling, canoeing, fishing, hiking, hunting, jogging, photography, swimming, and similar activities) (TCC 24.25.270)	A	A	A	A	A	A
(Uses in) Riparian management zones	N/A	P	N/A	N/A	N/A	N/A
Roads - Replacement and minor expansion (TCC 24.25.290)	P	A	P	P	P	P
Roads/streets, railroads, and associated bridges and culverts - New and expanded (TCC 24.25.280)	P	P	P	P	P	P
Roads - Repair and maintenance	A	A	A	A	A	A
Shoreline protective structures/armoring (e.g., bulkhead, gabion, riprap, or wall) (TCC 24.25.300)	P	P	P	P	P	P
Signs (e.g., interpretation, critical area tract, and survey markers)	See Chapter 24.60 TCC					
Single-family residential, new (TCC 24.25.295)	P	P	X	P	P	P
Ski lake - Creation	X	P (Also see Chapter 24.20 TCC)	X	X	X	X

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Slope stabilization or retaining wall (not a bulkhead) (TCC 24.25.300)	P	P	N/A	P	P	P
Stabilization techniques (nonstructural)/bioengineering (TCC 24.25.300)	P	P	P	P	P	P
Stair tower, stairway or mechanical lift (TCC 24.25.310)	P	P	X	P (BUFFER ONLY)	P	X
Stormwater conveyance system or detention/treatment facility - Maintenance or repair (TCC 24.25.325)	A	A	P	A	A	A
Stormwater retention/treatment facility - Construction (TCC 24.25.320)	P	A	X	P	X	X
Stormwater facilities - Surface water conveyance system - Construction (TCC 24.25.325)	P	P	P	P	P	P
Stormwater Facilities - Temporary sediment control ponds - Construction (TCC 24.25.320)	P	A	X	X	X	X
Stream flow and elevation gages - Installation	N/A	N/A	A	A	N/A	N/A
Stream relocation (TCC 24.25.330)	P	P	P	P	P	P
Subdivisions	See Chapter 24.55 TCC					
Trails/paths, elevated walkways, and associated facilities (interpretative site and viewing platform) - New construction (TCC 24.25.270)	P	P	P	P	P	P

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Utilities - Maintenance, repair or replacement (TCC 24.25.340)	A	A	A	A	A	A
Utility lines, utility corridors, and other facilities outside of existing improved roads and utility corridors - New construction (TCC 24.25.340)	P	A	P	P	P	P
Utility lines and facilities in improved roads and utility corridors - New installation (TCC 24.25.340)	A	A	P	P	P	P
Utilities - Installation of individual service lines (TCC 24.25.340)	P	P	P	P	P	P
Vegetation removal - Enhancement projects (TCC 24.25.400)	P	A	X	P	P	P
Vegetation removal - Noxious weeds (TCC 24.25.380)	A	A	A	A	A	A
Vegetation removal - Invasive vegetation (TCC 24.25.380)	P	A	P	P	P	P
Vegetation removal - Removal/thinning of hazard trees (TCC 24.25.390)	P	A	P	P	P	P
Vegetation removal - Aquatic weeds	N/A	N/A	P	A	P	N/A
Wells - New (TCC 24.25.420)	P	A	X	P	P	P
Wildlife blind or nesting structure	A	A	X	A	A	A

Other lawfully established existing uses not addressed in this table	P	P	P	P	P	P
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LEGEND:

A = Allowed without a Critical Area Review Permit, subject to requirements of this title

P = Permitted, subject to Critical Area Review Permit and requirements of this title

X = Prohibited

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.090 General standards.

The following requirements apply, as applicable, to all uses and activities listed in Table 24.25-3.

- A. **Regulatory Differences.** Differences in regulations because of the overlap of two or more critical areas or the Shoreline Master Program for the Thurston Region are governed by Chapter 24.01 TCC. All uses and activities subject to this section shall meet the requirements that provide the most protection to the critical areas involved. Uses and activities located in the jurisdiction of the Shoreline Master Program for the Thurston Region are prohibited if they are inconsistent with the Shoreline Master Program.
- B. **Critical Area Reports.** Applicants for uses listed in Table 24.25-3 that require county review and approval, with the exception of emergency responses provided for in Chapter 24.90 TCC, shall submit a critical area report consistent with Chapter 24.35 TCC.
- C. **Timing.** Uses and activities authorized pursuant to this chapter shall be undertaken, constructed or installed during the time frame specified by the WDFW to minimize habitat impacts. This requirement does not apply to riparian and marine shoreline management zones that do not involve a priority or locally important habitat.
- D. **No Net Loss of Habitat Functions.** Uses and activities carried out pursuant to this section shall result in equivalent or greater habitat functions, as determined by the approval authority consistent with best available science. All actions and uses shall be designed and constructed to avoid or, where that is not possible, minimize all adverse impacts to the important habitat area and associated buffers. Applicants must first demonstrate an inability to avoid or reduce impacts before impacts will be allowed. No activity or use shall be allowed that results in a net loss of important habitat area functions; destroys, damages, or disrupts habitat supporting priority species; adversely affects water quality; creates unstable earth conditions; or erosion.
- E. **Mitigation.** Adverse impacts to important habitats and associated buffers shall be fully mitigated (see Chapter 24.35 TCC) using mitigation sequencing criteria established in Chapter 24.01 TCC.
- F. **Intertidal/Saltwater Submerged Lands.** All uses and activities occurring in marine intertidal and submerged lands shall avoid impacts to eelgrass and kelp beds; commercial and recreational shellfish harvesting areas; and herring, surf smelt and sand lance spawning areas. If eelgrass or kelp is known or suspected to be present on the site proposed for development or where it would likely be affected by the proposed development, as determined by the approval authority in

consultation with WDFW, the applicant shall submit an aquatic vegetation survey that identifies the location of the eelgrass and/or kelp. Applicants for uses that the approval authority determines could adversely impact kelp or eelgrass beds shall submit a critical area report identifying any unavoidable impacts to these beds and proposed mitigation measures for review and approval by Thurston County.

- G. Surety. Applicants for proposals involving, as a condition of permit approval, mitigation of impacts, restoration or enhancement shall submit to the county a surety consistent with Chapter 24.70 TCC.
- H. Temporary Field Marking. The perimeter of the habitat area and associated buffer and those areas to be disturbed pursuant to an approved permit or authorization shall be marked in the field and inspected by the approval authority prior to the commencement of permitted activities. This temporary marking shall be maintained throughout the duration of the development activity. Also see TCC 24.25.070 and 24.25.140.
- I. Fencing and Signage. The approval authority may require that the perimeter of the important habitat area be fenced and that identification signage be installed as warranted to protect sensitive species and degradation of habitat, consistent with Chapter 24.60 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.100 Reserved.

Editor's note(s)—Ord. No. 14785, § 1Editor's note(s)—, adopted Aug. 28, 2012, repealed § 24.25.100Editor's note(s)— which pertained to agricultural activities and derived from Ord. No. 14773, § 3(Att. B), adopted July 24, 2012.

24.25.105 Biosolids application.

Biosolids application and uses shall be regulated by the Washington State Department of Ecology and meet all applicable federal and state standards, including Chapter 173-308 WAC; and be consistent with a memorandum of agreement (MOA), or similar document, between Thurston County and the Washington Department of Ecology in regard to biosolids and critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.110 Boat launching ramps, piers, docks and floats.

Boat launching ramps, piers, docks and floats may only be permitted consistent with the Shoreline Master Program for the Thurston Region, as amended, applicable federal, state, and local laws, the requirements of this section, and other applicable provisions of this title. For the purposes of this section, "float" shall include, but is not limited to: floating docks, mooring buoys, navigational aids and swimming floats.

- A. Boat Ramp Spacing Along Type S and F Streams. Public and private boat launching ramps along Type S or F streams shall not be located closer than five miles (measured along the river) from another boat launching ramp along the stream that is accessible to the public. Boat launching ramps shall not be allowed in locations where the total number of existing boat ramps, road and surface utility corridor crossings, plus the proposed boat-launching ramp, would exceed two such encroachments per 0.6 mile (measured along the stream) in the affected stream segment. The approval authority may waive the spacing requirement if it is determined that the proposed

location provides the least habitat impact of the available alternatives and that proposed mitigation measures will allow the project to occur without a net loss of riparian habitat area and stream functions.

- B. Boat Ramps Along Marine Shorelines. Boat launching ramps may only be permitted along marine shorelines upon demonstration of the following:
1. Mitigation measures ensure that there is no net loss of the functions of intertidal habitat as a result of the proposed ramp, including no increased beach erosion or alteration of salmonid migration corridors;
 2. The proposed ramp will not adversely impact important habitat areas;
 3. The proposed ramp is not elevated and will be constructed to be flush with the elevation of the existing beach; and
 4. The ramp's footprint is the minimum necessary to accommodate the proposed use.
- C. Piers, Docks, and Floats. Piers, docks, mooring buoys, navigational aids and swimming floats are allowed subject to the following:
1. Overwater Structures. Overwater and floating structures and associated moorings in marine waters shall be located a minimum of ten feet from any eelgrass (*Zostera* spp.) and designed to avoid shading eelgrass.
 2. Avoid Impacts to Spawning Beds and Eelgrass Beds. Docks, floats and rafts shall not ground on surf smelt, Pacific sand lance or herring spawning beds, or eelgrass (*Zostera* spp.). Flotation for the structure shall be fully contained to prevent the breakup or loss of the material.
 3. Toxic Substances. Only inert material or non-toxic treated wood approved by the county for use in water bodies shall be used in the construction of piers, ramps and floats and other structures proposed to be placed in, over, or within one hundred feet of water.
 4. Fill and Armoring. Fill and armoring shall not be used in the in the construction of piers, ramps, and floats.
 5. Vegetation. Loss and disturbance of existing vegetation shall be minimized, consistent with TCC 24.25.350—24.25.400.
- D. Impacts. The applicant shall demonstrate that the boat ramp, pier, dock, float and associated parking area and access, coupled with any proposed mitigation, will result in no net loss to salmonid spawning, rearing and migration areas or documented priority wildlife habitats.
- E. Related Facilities. Parking areas, restrooms and other facilities related to boat launches, piers, floats, and docks shall be located outside of riparian habitat areas, pond buffers, and marine riparian habitat areas. The facility shall be designed to minimize direct, untreated stormwater runoff from the site into the water body.
- F. Maintenance. Maintenance or replacement of piers, docks, mooring buoys, navigational aids, and swimming floats is permitted provided that hazardous materials are not used, except as provided for through a county approved integrated pest management plan or upon demonstration that the

material does not pose a risk to water quality; and it does not involve an increase in the number of pilings or the overall width or length of the dock or pier.

- G. Replacement. Boat launching ramps, piers, floats, and docks may be replaced provided they are not increased in length or width and the construction materials comply with the requirements for new ramps, piers, floats, and docks, as applicable. If the facility is located in marine waters, the proposed deck surface area shall be reduced to the maximum extent practical from the existing deck surface in waters between three feet and thirteen feet deep at ordinary high water.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.120 Bridge and culvert maintenance or repair.

- A. Maintenance and repair of bridges and culverts is permitted provided:
1. All maintenance and repair is consistent with the Regional Road Maintenance ESA Program Guidelines, 2002, as amended, and the provisions of this section;
 2. The county may allow use of other maintenance BMPs if they will protect water quality and avoid detrimental impacts on fish and priority wildlife species;
 3. Maintenance of culverts in streams used by salmonids or that convey water to a stream used by salmonids shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet and stabilization of the disturbed bank and channel immediately adjacent to the culvert and shall not involve the excavation of a new sediment trap adjacent to the inlet;
 4. Such maintenance shall not involve the use of herbicides, sealants, liquid oily substances or other hazardous materials;
 5. The bridge or culvert is not located within Shoreline Master Program jurisdiction;
 6. It meets the conditions of any required Hydraulic Project Approval from the Washington Department of Fish and Wildlife, which shall be posted in a conspicuous location on site.
- B. Clearing of culverts does not require a county permit, but may require review by state or federal agencies. Clearing of culverts shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.130 Bridge and culvert replacement.

Replacement of a bridge or culvert is allowed if necessary to conform to current standards and if:

- A. It was lawfully established;
- B. There is not another alternative available that has less adverse impact on the important habitat or other critical areas;
- C. The bridge or culvert is designed to avoid or, where that is not possible, minimize impacts to the important habitat and it is in compliance, to the greatest extent possible, with TCC 24.25.280;

- D. In the case of culverts in a Type F or S stream, the culvert is made passable for fish in accordance with the WDFW Fish Passage Design at Road Culverts, 2003, as amended, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as amended;
- E. If the culvert involves a ditch, the ditch is not increased in width at the culvert site unless it is narrower at that point than the rest of the ditch and would otherwise impede the flow of water. In that case, it may be widened to the minimum extent the approval authority deems necessary; and
- F. Flood hazards are avoided and the proposal is consistent with Chapter 24.20 TCC and other applicable regulations.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.140 Clearing and grading.

Also see Chapter 14.34 TCC regarding grading requirements and Chapter 15.05 TCC regarding stormwater and erosion control.

- A. **Important Habitats.** Clearing and grading within fish and wildlife habitat conservation areas and associated buffers is only allowed to the minimum extent necessary for a use approved and permitted pursuant to this chapter, as determined by the approval authority.

Clearing and grading shall not occur within an area where a locally important or priority species has a primary association (e.g. nest sites and foraging and roosting areas), based on WDFW Management Recommendations and related information.
- B. **Clearing in Freshwater Riparian and Marine Riparian Management Zones.** Clearing on lots in freshwater riparian management zones shall not exceed thirty-five percent of the portion of the lot or tract within the freshwater or marine riparian management zone. Priority shall be given to preserving forested areas contiguous to the marine riparian habitat area and riparian habitat areas.
- C. **Fencing the Clearing Limits.** The clearing limits within the important habitat area shall be marked with temporary fencing. Signage shall be placed on the fence indicating that the area beyond is protected as a critical area. The fencing/signage is subject to inspection by the approval authority prior to the commencement of permitted activities. The temporary fencing/signage shall be maintained throughout construction and shall not be removed until permanent signs, if required pursuant to Chapter 24.60 TCC, are in place.
- D. **Timing.** Clearing and grading in important wildlife habitats shall only occur between May 1 and October 1, except as provided for in TCC 24.25.090(C). The county may temporarily suspend grading during this period if excessive rainfall might cause erosion and sedimentation that could affect a stream or marine waters, or dependent fish or wildlife. The county may allow clearing and grading outside of this period if all drainage will flow away from streams, lakes, ponds, and marine waters.
- E. **Preservation of the Infiltration Capacity of the Site.** The soil duff layer in the buffer shall remain undisturbed to the maximum extent practicable. The moisture-holding and infiltration capacity of the topsoil disturbed by permitted development shall be maintained in areas not approved for impervious surfaces by minimizing soil compaction or by stripping, stockpiling, and reapplying topsoil at predevelopment levels.

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(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.150 Drainage ditches—Maintenance.

Lawfully established drainage ditches that flow to a Type F or S stream, Puget Sound, or a pond shall be maintained consistent with BMPs as follows:

- A. Maintenance of lawfully established drainage ditches (e.g., agricultural drainage ditches) created prior to February 1, 1994 or ditches under the management of drainage districts shall be consistent with NRCS standards, or as otherwise specified in a farm management plan approved by the WSU Cooperative Extension Office, USDA, the NRCS, or the Thurston County Conservation District and accepted by the county. Spraying of herbicide for ditch maintenance is prohibited. Ditch maintenance shall not involve enlarging the ditch lengthwise, in depth, or in width.
- B. If a ditch has not been in active use and maintained for the last five consecutive years (e.g., as evidenced by aerial photographs or the maturity of vegetation in the ditch), it shall be considered abandoned.
- C. Road side ditches. See TCC 24.25.325.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.160 Drilling.

- A. Drilling with Human Powered, Non-motorized, Hand-held Equipment. Gauge installation and non-motorized site exploration, excavation for data collection or research and accomplished by human powered, hand-held equipment in accordance with state-approved sampling protocols is allowed. The associated spoils shall be contained and the disturbed area shall be restored upon completion of the activity.
- B. Motorized Drilling and Boring. Motorized augering under the direction of a professional engineer licensed in the State of Washington, well drilling allowed pursuant to TCC 24.25.420, and boring consistent with TCC 24.25.340 are allowed provided the approval authority determines, in consultation with a qualified biologist and engineer, that the drilling or boring is appropriate, subject to the following:
 1. The applicant shall identify and minimize potential impacts. This shall include demonstration that the drilling or boring will not dewater the water body;
 2. The access for delivering equipment to the drilling or boring site shall be aligned and constructed in a way that minimizes potential impacts to the important habitat area;
 3. The associated spoils shall be contained, the disturbed area shall be restored upon completion of the activity;
 4. Related equipment and materials shall be stored outside of the important habitat area except as necessary for daily operations; and
 5. Drilling shall not occur within an area where a priority or locally important species has a primary association (e.g. nest sites, foraging and roosting areas), based on WDFW Management

Recommendations for Priority Species, unless the approval authority determines, in consultation with the WDFW, that the scale and timing of the proposed activity would not be harmful to the wildlife.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.170 Existing, lawfully established uses.

Existing, lawfully established uses not specifically addressed in this chapter may continue. However, existing uses in the important wildlife habitat areas and associated buffers should employ BMPs to minimize adverse impacts on the important habitat area(s).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.180 Habitat area enhancement/restoration.

The approval authority may, in consultation with WDFW and other experts (such as tribal biologists or DNR botanists), approve restoration of important habitat areas and associated buffers subject to an approved critical area report and restoration plan (see Chapter 24.35 TCC) and applicable provisions of this chapter. Stream enhancement/restoration shall only be performed under a plan for the design, implementation, maintenance and monitoring of the project approved by a qualified fisheries biologist and, if needed, by a civil engineer with experience in stream hydrology. The project shall be carried out under the direct supervision of a qualified fisheries biologist, hydrologist, or engineer with demonstrated experience, as appropriate. (Also see Chapter 24.20 TCC, Frequently Flooded Areas.)

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.190 Hatcheries.

State and federal fish hatcheries are permitted if the applicant demonstrates to the approval authority's satisfaction that there is not an alternative location with less adverse impact on the critical area and associated buffer than the proposed location and that the operation will not reduce water quality or increase water temperature to the detriment of native or planted game fish occupying the affected water body. The hatchery shall be consistent with the Shoreline Master Program for the Thurston Region (1990) and employ BMPs to avoid adverse impacts to the important habitat area and associated buffer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.200 Instream structures—New and expanded.

- A. New and Expanded Instream Structures. New and expanded instream structures may be allowed as necessary to evaluate, restore or improve habitat. Installation of instream structures shall be done in the least impacting way practical, at the least impacting time of year, and in conformance with applicable local, state and federal regulations.
- B. New and expanded public flood protection measures and other instream structures, such as, but not limited to, high flow bypasses, dikes, levees, tide gates, dams, weirs and other flood control structures may be allowed on Type S and F streams only when demonstrated to be necessary to protect human life or as part of a watershed basin restoration project approved by the county, consistent with state or federal requirements, in consultation with the WDFW and others with experience. These may also be allowed subject to Chapter 24.90 TCC, Emergency Authorization.

- C. **Minimize Impacts.** The approval of a new or expanded instream structure shall be consistent with a critical area report (see Chapter 24.35 TCC) prepared by a qualified biologist and engineer, if appropriate, that identifies and provides for the mitigation of any adverse habitat impacts, including restoration of all affected instream and riparian habitat features.
- D. **Species of Concern.** All structures, activities, uses, and alterations proposed to be located in Type S or F streams or in Type Np and Ns streams that drain to Type S or F streams, directly to Puget Sound, a pond regulated by this title, or habitat of any other species of concern shall be located and designed so that they will not degrade habitat or water quality, including water temperature. Fish bypass facilities shall be provided where needed to allow fish migration. Structures that would prevent the migration or travel of salmonids or other native fish shall not be allowed.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.210 Instream structures—Repair, maintenance or renovation.

Repair, maintenance or renovation of lawfully established instream structures including, but not limited to dams, dikes, levees, high flow bypasses and revetments, is permitted provided that the facilities are not increased in height or length or expanded waterward. Any necessary stabilization shall be accomplished with bioengineering techniques to the maximum extent practicable, consistent with TCC 24.25.300. The site shall be restored with appropriate native vegetation, as determined by the approval authority.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.220 Intensive uses.

Intensive uses on parcels containing fish and wildlife habitat conservation areas shall comply with the applicable requirements in this section.

- A. **Types of Intensive Uses.** For the purposes of this section, intensive uses include those uses that store or use hazardous materials, pesticides, or herbicides in quantities regulated by TCC 24.10.140, or would generate excessive nutrients, sediments, or pollutants that could reach the important habitat area or associated buffer or significantly alter the quantity or the timing of water reaching a stream, lake or pond such that the survival of native or anadromous fish would be jeopardized.
- B. **Identify Risks.** Applicants for new intensive uses on sites that contain streams, lakes, ponds or priority species conservation areas or abut marine waters, that have potential to degrade such habitat areas, as determined by the approval authority in consultation with the WDFW and others with expertise, shall submit information that identifies and evaluates the potential risks the proposed use poses for the habitat areas.

This shall include, as applicable, whether sediment, effluents, altered pH, the amount, timing, or duration of groundwater flows or altered surface hydrology, noise, or glare would be harmful to aquatic life, birds, or other wildlife.

- C. **Protective Measures.** The approval authority shall require measures to avoid, or if that is not possible, minimize, potential adverse impacts on the important habitat area and any associated buffer.

1. The approval authority may require, as warranted, the use of BMPs for new and existing intensive uses. In addition, the approval authority may require applicants for new intensive uses to use integrated pest management; provide and maintain vegetative filter strips (up to fifty feet in width); install fencing; locate noisy activities away from the habitat area; require buildings on the site to be located or oriented where they would have the least impact on the habitat; or employ other mitigation measures that would be effective in preventing pollutants and sediment from reaching a water body, preventing damage to the important habitat area and avoiding adverse impacts on dependent wildlife, including maintaining stream flows and temperature necessary to sustain fish.
 2. If pollution or emissions from a type of proposed use (e.g., smoke stacks associated with asphalt plants, incinerators, or other industrial operations) have been demonstrated scientifically as causing damage to the important habitat or species, the approval authority may require use of BMPs and require that the use be located on the project site where the emissions would pose the least risk of polluting the important habitat area, consistent with best available science and protection of public health and safety.
- D. Expert Review. The approval authority may call upon experts, at the applicant's expense, as necessary to help evaluate information submitted by the applicant.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.230 Landscaping and gardening—Maintenance.

- A. Maintenance of lawfully established lawns, landscaping, gardens, athletic fields, playgrounds, parks and similar uses is permitted in important habitat areas and associated buffers provided it does not involve any expansion beyond the existing, developed area.
- B. Gardening. Gardening for personal consumption within existing gardens is permitted. New gardens may be established within portions of priority upland habitat areas, marine riparian habitat area, pond buffers, and riparian habitat areas approved for development pursuant to this chapter. No clearing or tree removal outside of the area authorized for development shall be permitted to accommodate such gardens.
- C. Landscaping and screening requirements for development under other county regulations such as the zoning code, shall include flexibility in design and vegetation when located adjacent to a fish and wildlife habitat conservation area. This may include incorporation of native, vegetation local to the area, consistent with the habitat area or species use, and/or alternate screening methods such as fencing rather than trees.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.240 Mineral extraction—Asphalt plants.

Mineral extraction and asphalt batch plants are allowed in the riparian management zone landward of any documented channel migration hazard area, subject to TCC 24.25.140. Mineral extraction and asphalt batch plant proposals on property containing streams or marine, lake or pond shorelines subject to this chapter shall be reviewed to determine if stormwater or sediment from the activity would be harmful to aquatic life in such waters. In addition, an analysis shall be performed to determine if mineral extraction or asphalt batch plants would diminish or change groundwater flows and temperatures to the water body such that elevated temperatures would adversely affect dependent fish and wildlife. Impacts to air quality,

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or lighting, noise or other impacts to specific species shall be evaluated and mitigated through the special use permit process. Mitigative measures shall be required to avoid, or if that is not possible, minimize, the potential adverse impacts (Also see Chapter 20.54 TCC, Special Uses and Chapter 17.20 TCC, Mineral Extraction Code).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.250 On-site sewage disposal systems and sewer lines—New.

- A. New on-site sewage disposal systems and sewer lines serving an approved use may be allowed in fish and wildlife habitat conservation areas as specified in Table 24.25-3, subject to Chapter 24.50 TCC.
- B. New on-site sewage systems and sewer lines shall be consistent with applicable provisions of Article IV of The Thurston County Sanitary Code, and the applicable provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.260 On-site sewage disposal systems—Repair/Replacement.

- A. Failing on-site sewage disposal systems shall be remedied through compliance with Article IV of the Thurston County Sanitary Code and the method that results in the least impact to the important habitat area and associated buffer. Replacement sewage disposal systems shall not be allowed within the riparian habitat area, marine riparian habitat area, or pond buffer unless there is no alternative site available outside of such areas to accommodate the facilities. Clearing of existing vegetation to remedy the failing system shall be limited to the minimum area necessary for the replacement system.
- B. If the failing sewage disposal system must be replaced with a new on-site sewage disposal system, when possible, it shall be located on a portion of the site that has been disturbed by development and as far from any water body, priority species habitat, and any documented one-hundred-year channel migration zone as possible (see Chapter 24.20 TCC, Frequently Flooded Areas). The approval authority may require the applicant to demonstrate that due to physical constraints (e.g., topography, soil conditions, or the configuration of the site), another site configuration would not allow the development to occur without intrusion or with less intrusion into the important habitat area and associated buffer than the proposal.
- C. If a suitable disturbed area is not available to accommodate the on-site sewage system, it shall be located where it would be least harmful to the important habitat, as determined by the approval authority in consultation with WDFW.
- D. Replacement on-site sewage systems and sewer lines shall be consistent with applicable provisions of Article IV of the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage, and the applicable provisions of this chapter.
- E. Regular maintenance such as septic pumping, mechanical repairs and inspections are allowed without critical area review permits.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.265 Reclaimed water.

Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.267 Recreation facilities, trails, and trail-related facilities—Exemptions.

The following uses are exempt from the need for a critical area permit:

- A. Construction and/or maintenance of a private ground trail using hand tools in the riparian habitat area, provided that the trail is three feet or less in width, not impervious (e.g. gravel, rocked, paved), and constructed with minimal vegetation removal and minimal pervious material such as wood chips. Construction of the trail shall not cause a public safety risk.
- B. Passive recreation activities.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.270 Recreation facilities, trails, and trail-related facilities.

- A. Trails and Related Facilities. Trails and related facilities shall avoid habitat sustaining priority species and species of local importance to the greatest extent possible. The approval authority may allow trails and trail-related, passive recreation facilities, such as, but not limited to, nature viewing areas, benches, identification and interpretive signs, viewing platforms, and fishing access within important habitat areas if it is determined that there is no practicable or reasonable alternative. Trail alignment, design, construction, and maintenance shall adhere to the following requirements:
 - 1. Location.
 - a. Trails and related facilities shall, to the extent feasible, be placed on existing levies, road grades, abandoned rail lines, utility corridors, or other previously disturbed areas.
 - b. Except for access points for wildlife viewing, fishing, and recreational use authorized pursuant to this chapter, trails and trail related facilities shall be located outside or on the outside edge of important habitat areas to minimize disturbance and clearing.
 - c. Trails and related facilities (e.g., viewing platforms and benches) allowed in important habitat areas shall be located, aligned and constructed to minimize disturbance to important habitat area functions, and to avoid the most sensitive and productive wildlife habitat (e.g., documented breeding, nesting, spawning and rearing areas). Trails and related facilities shall not be located where they would negatively impact a priority species or species of local importance. The approval authority may require signage to avoid intrusion into habitat areas at times when priority or locally important wildlife species are sensitive to disturbance. When necessary to avoid habitat impacts, footbridges shall be used to cross water bodies rather than culverts.
 - d. The trail alignment shall minimize removal of conifer trees twelve inches or greater in diameter, shrubs, and snags and preserve priority habitats.

- e. Parking areas and other facilities associated with trails, not specifically provided for in this section or Table 24.25-3, shall be located outside of the important habitat area.
2. Trail Width. Trails shall not exceed four feet in width unless they are designed to accommodate handicapped persons. In that case, the trail and associated clearing shall be the minimum width that complies with the Americans with Disabilities Act (ADA). Clearing shall be done with hand tools unless the approval authority determines that the scale of the project necessitates mechanized equipment and its use will not harm important habitat areas beyond the trail corridor.
3. Protect Water Quality. Trails and related facilities shall incorporate water quality protection measures (e.g., check dams or devices, such a perforated pipe, to reduce sheet flow of stormwater runoff) as needed to assure that runoff from such trails/facilities does not create channels in the riparian habitat area, marine riparian habitat area, or buffer that directly discharge to a stream, pond, lake or Puget Sound.
4. Salvage Plants. Native vegetation disturbed by trail construction shall be made available for salvage.
5. Impervious Surfaces. Trails shall not be paved unless they are specifically designed to be accessible by handicapped persons. The approval authority may allow regional trails to be paved on former railroad rights-of-way extending through important wildlife habitat. Where impervious surfaces are used they shall be minimized consistent with applicable standards (e.g., ADA and Washington Department of Transportation standards). Raised boardwalks may be used in wet areas provided that they are not treated with hazardous materials that would be harmful to water quality or sensitive species. Viewing platforms shall not be made of continuous impervious materials or be treated with toxic substances that could leach into the important habitat area. The "footprint" of viewing platforms shall be as small as possible in order to minimize impacts (e.g., through the use of pin piles).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.275 Active recreation.

- A. Active Recreation. Water related active recreation, such as swimming areas, may be located within the buffers for ponds and marine habitat areas to the minimum extent necessary to accommodate the use, consistent with the Shoreline Master Program for the Thurston Region (1990), or as amended, and as determined by the approval authority. Related restrooms and parking areas shall be located outside of such areas. Uses such as active use parks, athletic fields, golf courses, operation of motorized recreational vehicles (ORVs), campgrounds, picnic areas, and related restrooms and parking areas shall not be located in important habitat areas or associated buffers.
- B. Golf Courses. Important habitat areas shall not be adversely impacted in designated play areas of the golf course, but they may be included in the course design provided all other applicable provisions of this chapter are met. Important habitat areas and associated buffers within golf courses shall remain in their existing condition, except as provided for in this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.280 Roads/streets, railroads, and associated bridges and culverts—New and expanded.

Proposed road and railroad crossings of streams, riparian habitat areas, marine riparian habitat areas, riparian and marine management zones, and lake and pond buffers and other important habitats shall follow all applicable local, state, and federal laws and the requirements listed below. These requirements also apply to private access roads.

- A. New road, railroad and bridge crossings of the habitats and buffers listed above shall be prohibited except where there is no alternative for an essential crossing (e.g., to provide access to property where no other access is physically possible or available) with less impact on the important habitat area.

Where the approval authority determines that alternative access with less impact on the important habitat area is physically possible, prior to authorizing a new crossing, the applicant shall demonstrate that the necessary property or easement for the alternative access cannot be obtained at reasonable terms or that the alternative is otherwise cost prohibitive.

- B. Alignment. Roads within habitat areas, where necessary, shall be aligned as follows:
1. Crossings shall occur, to the extent practical, where they would have the least adverse impact on important habitat. Proposed crossings that would degrade salmonid spawning or rearing areas, priority wildlife habitat, or stands of mature conifer trees (e.g., at least one hundred years old) in riparian areas, shall not be allowed unless the applicant demonstrates to the approval authority's satisfaction that the crossing is essential and that no other crossing location would have less impact on habitat functions. Priority shall be given to protecting salmonid spawning and rearing areas from adverse impact. Crossings shall be located, to the greatest extent practical, to avoid fragmentation of priority habitats (e.g., prairie and oak woodlands).
 2. Road alignments shall, to the extent possible and consistent with this section, avoid bends in the stream, areas with highly erodible soils and landslide prone areas (see Chapter 24.15 TCC, Geologic Hazards), unless the approval authority determines that mitigation measures will allow the project to occur without a net loss of habitat functions or increased public safety risks. (See Chapter 24.20 TCC, Frequently Flooded Areas and Chapter 24.30 TCC, Wetlands).
 3. New roads crossing riparian habitat areas or streams shall be aligned perpendicular to the channel where possible. If that is not possible, they shall be aligned as close as possible to perpendicular at an angle greater than sixty degrees to the centerline of the stream channel. The approval authority may allow a deviation from this standard to avoid impacting high quality riparian habitat (e.g., mature conifers and wetlands associated with streams) or other critical areas if the net effect of the alternative alignment would reduce impact on the affected critical areas or if necessary to preserve public safety. Roads in riparian habitat areas shall not extend parallel to the stream.
 4. The road alignment shall avoid, to the maximum extent practical, conifer trees greater than twelve inches in diameter at four and one-half feet above the ground, measured on the uphill side of the tree and shall stay five feet outside of the dripline of oak trees.
 5. Maintenance roads may be located in utility corridors if the approval authority determines that they are essential and they are located in the least impactful location in the outer half of the habitat area or buffer contiguous to the utility corridor on the side away from any water body. To the maximum extent practicable, access for utility maintenance within riparian habitat areas, marine riparian habitat areas, and pond buffers shall be limited to access points rather than by an

- access road extending parallel to the water body. The width of the maintenance road shall be minimized; in no event shall it be greater than fifteen feet.
- C. **Serve Multiple Properties.** Crossings of Type S and F streams shall be aligned, whenever possible, to serve multiple properties and be designed to accommodate conduit for utility lines. The county shall require the applicant for a new road crossing, to the extent legally permissible, to work with the county to provide for a street layout and crossing location that will minimize the need for additional stream crossings in the future to serve surrounding property.
- D. **Spacing of Crossings.**
1. Crossings of Type S and F streams shall not be allowed if the number of existing road and utility corridor crossings plus the proposed crossing would equal or exceed two crossings per 0.6 river miles in the affected stream segment, unless:
 - a. The approval authority determines that mitigation measures will allow the project to occur without a net loss of stream and riparian habitat functions. (For example, due to removal of an existing stream crossing at another location along the stream or restoration of degraded riparian area); or
 - b. The absence of the requested crossing would landlock the property.
 2. The approval authority may require that crossings spaced closer than called for in this subsection be accomplished with a bridge rather than a culvert if it would significantly reduce habitat impacts.
- E. **Minimize Crossing Width.** Crossings of streams, riparian habitat areas, marine waters, marine riparian habitat areas, and pond or lake buffers shall have the narrowest width possible, consistent with applicable county road standards and protection of public safety. Clearing to accommodate the road shall be minimized, consistent with the protection of the most important habitat, as determined by the approval authority.
- F. **Bridge and Culvert Design.** The design of stream crossings shall be consistent with the WDFW Fish Passage Design at Road Culverts, 2003, as amended, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as amended. Bridges are preferred on Type S and F waters unless physically infeasible. Culverts approved to be installed on Type S and F streams shall be arch/bottomless or the equivalent that provides comparable fish protection, as determined by the approval authority in consultation with WDFW and others with expertise. Crossing in estuaries shall be designed to avoid interruption of tidal flows. The approval authority may require that crossings in estuaries be accomplished with a bridge rather than a culvert if it would significantly reduce habitat impacts.
- G. **Avoidance of Flood Hazards.** See Chapter 24.20 TCC.
- H. **Logging Roads within Sites Proposed for Development.** Crossings of important habitat areas within sites proposed for development that were allowed by a state forest practices permit but which do not meet the requirements of this chapter, and any unlawfully established roads, shall be removed. The former roadbed shall be restored to a condition consistent with the surrounding undisturbed areas. The approval authority may require soil amendment to enable plant survival and drainage in the restored area.

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(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.290 Road replacement and minor expansion.

Existing public roads constructed prior to July 24, 2012 may be replaced or widened (e.g., for safety improvements) within the footprint of the existing road bed and in portions of the right-of-way that have been previously cleared or graded as part of permitted road work provided that all of the following criteria are met:

- A. Capacity. The capacity of the road is not increased.
- B. Minimize Impact. When possible, road widening shall occur on the side of the road furthest from the important habitat area unless other critical areas are present, in which case the approval authority, in consultation with others with expertise, shall determine, given physical and technical constraints, where the proposed road expansion would have the least impact on the critical areas.
- C. Expansion Limits. Such road expansion shall not extend beyond the outer edge of existing roadside ditches, or encroach into areas that are predominately covered with native vegetation. In no case shall a road expansion authorized pursuant to this chapter extend more than ten feet beyond the existing roadbed. Only one minor expansion shall be allowed per road segment pursuant to this section.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.295 Single-family residential, new.

New and existing single-family residential uses are subject to Chapter 24.50 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.300 Shoreline and slope stabilization.

The approval authority may authorize stabilization of stream banks, lakes, ponds, and marine shorelines only where it is determined that, it is necessary to protect lawfully established, existing threatened structures as defined in this title and by the Shoreline Master Program for the Thurston Region (1990) as amended and applicable; and that cannot be relocated with less impact to fish and wildlife habitat conservation areas or other critical areas; or to protect unusually high value natural resources/wildlife habitat (e.g., or priority species locations or a wetland associated with a stream). Stabilization of pond, marine or stream shorelines, is only allowed as provided for in the Shoreline Master Program, as amended, and consistent with this section. Any proposal for slope/bluff stabilization must be supported by a geological assessment from a qualified geotechnical professional and a biologist and shall adhere to the following preferential order:

- A. Nonstructural Shoreline Protective Techniques. When stabilization methods are deemed necessary by the director, nonstructural shoreline protective techniques are preferred to concrete bulkheads, riprap or other types of shoreline armoring. Nonstructural techniques may include but are not limited to: beach nourishment, coarse beach fill, gravel berms, vegetation plantings and bioengineering. Best available science shall be used to evaluate the best techniques for protection as determined by the director. Refer also to the Washington Department of Ecology publications "Slope Stabilization and Erosion Control Using Vegetation" (1993, Publication 93-30), and "Marine Shoreline Armoring and Puget Sound" (2010, Publication 10-06-003).

- B. Bioengineering. Stabilization of stream, lake, pond and marine shorelines, if necessary, shall be accomplished with bioengineering or similar soft stabilization techniques unless the applicant's qualified engineer and biologist demonstrates that such techniques are not sufficient to protect structures and facilities listed in this section from erosion and slope failure. (See Washington's Integrated Stream bank Protection Guidelines for bioengineering designs.) The stabilization shall be designed and installed to minimize adverse impacts on the habitat's functions.
- C. Combination of Bioengineering and Hard Armoring. If the applicant's qualified engineer and biologist demonstrate to the approval authority's satisfaction that bioengineering alone will not be sufficient to protect structures and facilities listed in this section, the approval authority, in consultation with a biologist and qualified engineer, at the applicant's expense, may authorize a combination of bioengineering and structural solutions that is least damaging to the habitat. The stabilization shall be designed and installed to minimize adverse impacts on the habitat's functions. The structural stabilization solutions shall comply with subsection (D) below.
- D. Structural Techniques (e.g., bulkhead, gabion, riprap, revetments, or wall). If the applicant's qualified engineer and biologist demonstrate to the approval authority's satisfaction that the nonstructural techniques provided for in this section are not possible or will not be sufficient to protect structures and facilities listed in this section from erosion and slope failure, they may, in consultation with a biologist and qualified engineer at the applicant's expense, propose a structural stabilization solution consistent with the following:
1. Hard armoring, such as rip-rap and bulkheads, may only be used when the applicant demonstrates to the approval authority's satisfaction that a public facility, public road, utility (not individual service lines that can be relocated), sole access road, or occupied structure cannot be safely and practically maintained without such measures. The armoring shall be the minimum dimension necessary to protect the structure.
 2. Hard armoring shall not be allowed along Type S or F streams, in marine habitat areas, or in salmonid spawning, migration or rearing areas unless it is necessary to protect critical public facilities, human life, or a threatened dwelling.
 3. Structural techniques shall only be allowed along riparian habitat areas when:
 - a. It is to protect a legally permitted threatened structure; and
 - b. The residence and normal appurtenances are located within the 2:1 slope measured from the toe of the bluff or within the fifty-foot top of slope buffer, whichever is greater; and
 - c. Only if a geotechnical assessment completed per Chapter 24.35 TCC finds that the structure to be protected will be threatened based on the long-term erosion rate (thirty—fifty year average) within the next three years if toe protection is not provided.
- E. Designed by Engineer. A professional engineer licensed in the State of Washington with demonstrated expertise regarding hydraulic actions along shorelines shall design stabilization projects along streams and marine shorelines in consultation with a qualified biologist.
- F. Avoid Intrusion into the Important Habitat Area. Any new or replaced shoreline protective structures shall be placed as close to the existing bank as possible and parallel to the natural shoreline. In areas where dry land has been previously created by fill behind the bulkhead, the

- replacement structure should be designed to remove the fill and place the new structure as close to the historical OHWM as possible.
- G. **Repair, Maintenance or Renovation.** Repair, maintenance, or renovation of lawfully established shoreline stabilization structures is permitted consistent with state and federal regulations and the Shoreline Master Program for the Thurston Region, provided that the facilities are not increased in height or length or expanded waterward. Replacement of existing shoreline stabilization structures shall be considered a new use, except as provided for by the Shoreline Master Program for the Thurston Region (see Section XVIII, Shoreline Protection).
 - H. **Nontoxic Materials.** Approved stabilization shall only use materials that do not pose a risk to water quality, consistent with best available science.
 - I. **Slope Stabilization.** Slope stabilization is only allowed in important habitat areas, if consistent with Chapter 24.15 TCC, Geologic Hazards and Chapter 24.20 TCC, Frequently Flooded Areas, and only where erosion or landsliding threatens a use listed in this section. Bioengineering shall be used where possible.
 - J. A mitigation plan for impacts to fish and wildlife conservation areas including the shoreline ecological functions as a result of the armoring shall be prepared by a qualified biologist and implemented immediately following construction. Mitigation measures may include temporary or perpetual beach feeding with appropriate substrate, additional woody debris, revegetation of the adjacent upland area, or other measures designed to minimize the impacts to the nearshore environment from armoring.
 - K. Prior to any approval of shoreline armoring, the applicant shall demonstrate that other measures have been taken to address the erosion or other threats to the structure. This includes improving or installing a functioning drainage system, minimizing impervious areas, restoration of trees and other native vegetation on the adjacent buffer slope or bluff, possible relocation of structures, or other measures that would improve stabilization and reduce the threat to the structure.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.310 Stair tower, stairway, and mechanical lift.

Stair towers, stairways, and mechanical lifts may be permitted consistent with the Shoreline Master Program for the Thurston Region, and the following requirements:

- A. **Avoid Habitat Impacts.** Stair towers, stairways, and mechanical lifts shall not be located, designed, or constructed such that they would ground on serf smelt, Pacific sand lance or herring spawning beds, or on eelgrass beds (*Zostera* spp.).
- B. **Treated Wood.** Any treated wood proposed to be used in the construction of the stair tower, stairway and/or mechanical lift that would be placed in, over, or within 100 feet of the water is subject to county approval. Only treatments that pose a negligible risk to water quality shall be permitted.
- C. **Armoring.** Riprap or other armoring shall not be placed on a beach to protect stair towers, stairways or mechanical lifts.

- D. Footprint. The footprint of the stair tower, stairway, and mechanical lift shall be the minimum necessary to accommodate the proposed use.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.320 Stormwater facilities—New.

New and expanded stormwater facilities (e.g. detention, retention, treatment and conveyance facilities) shall not be constructed within priority prairie habitat. New stormwater facilities may be constructed within other important habitat areas and associated buffers consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC) and the Clean Water Act, under the following conditions:

- A. No Alternative. The applicant shall demonstrate that there is no alternative for accommodating stormwater with less impact on the important habitat area due to topography or other physical constraint. The facilities shall be designed and located to minimize impacts on the important habitat area.
- B. Accommodation of Stormwater Generated Within the Habitat Area. New roads and other development located adjacent to important habitat areas shall be designed and located so any associated stormwater facilities are located outside of the important habitat area. The approval authority may require that the proposed development be redesigned or reduced in scale to avoid or minimize impacts to the important habitat area.

Any new retention, detention, or treatment facilities shall be designed and sized to only accommodate stormwater generated from impervious surfaces (e.g., roads and bridges) within or immediately adjacent to the important habitat area or new impervious surfaces approved consistent with this chapter.

- C. Size Limits and Location. Use of riparian habitat areas, marine riparian habitat area or pond or lake buffers for stormwater retention, detention or treatment shall be limited to the twenty-five percent of the riparian habitat area, marine riparian habitat area, or buffer furthest from the water body, unless another location is necessary to accommodate stormwater from a road or bridge. In no case shall the size of the facility exceed twenty-five percent of the habitat area/buffer on the parcel(s) under development. The stormwater facility shall not cause an increase in water temperature or degradation of water quantity and quality of fish-bearing streams.
- D. Roadside Stormwater Conveyance Facilities. Roadside stormwater conveyance swales and ditches may be extended through important habitats within rights-of-way. When possible, they shall be located along the side of the road furthest from the habitat area. If the conveyance facility must be located along the side of the road closest to the important habitat area, it shall be located as close to the road/sidewalk as possible, consistent with public safety.
- E. Open and Vegetated. Stormwater detention, retention, and treatment ponds in important habitat areas shall be open and, to the extent possible, vegetated with native plants present in the area. Invasive vegetation shall not be planted. Stormwater conveyance facilities shall be open and vegetated with non invasive plants unless the approval authority determines, in consultation with the applicant's qualified engineer, that design constraints or protection of public safety warrant burying the conveyance facility (e.g., underground storage is needed or the facility would span a steep slope and must be "tight lined" to avoid slope failure - see Chapter 24.15 TCC, Geologic Hazards). Vegetation shall be maintained and, if necessary, planted adjacent to all open swales,

channels, and ponds in order to retard erosion, filter sediments, pollutants, and (if warranted to maintain water temperatures necessary to sustain aquatic life) shade the water, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), and the Clean Water Act.

F. Avoid Channelization.

1. With the exception of conveyance facilities extending through the important habitat area and/or associated buffer, stormwater shall be dispersed as sheet flow at the outer edge of the important habitat area to avoid channelization and allow filtration of sediment, nutrients, and pollutants and infiltration of water. The approval authority may require, if slopes exceed five percent, that obstructions or devices (e.g., perforated pipe) be installed to maintain sheet flow within the important habitat area and associated buffer.
2. When an outfall to a stream, pond, or marine waters is necessary, it shall be designed to mitigate any adverse impacts to aquatic life. This may include, if warranted, a conveyance system and outfall structure that simulates natural conditions and provides habitat features necessary for fish feeding, cover and reproduction. If stabilization of an outfall along a Type S or F stream or marine shoreline is necessary, bioengineering techniques shall be used to the maximum extent practical, consistent with state and federal regulations (See TCC 24.25.300).

G. Treatment. All stormwater from stormwater systems shall be treated prior to release to a water body consistent with the Clean Water Act and Chapter 15.05, TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.323 Stormwater facilities—Engineered stormwater dispersion.

The dispersion area of stormwater dispersion systems, as defined by the Thurston County DDECM, shall not be considered a stormwater facility as described in TCC 24.25.320, and regulated as such, unless a physical structure is incorporated within the design that impacts the FWHCA. Stormwater dispersion facilities whose dispersion area includes any portion of a FWHCA are allowed as an element of a stormwater system under the following circumstances:

- A. Dispersion of runoff from back yards of development and downspout dispersion, done in accordance with the Thurston County DDECM, is allowed at the outside edge of the FWHCA.
- B. Sheet flow and concentrated flow dispersion, done in accordance with the Thurston County DDECM, of stormwater meeting runoff treatment requirements of the Thurston County DDECM is allowed at the outside edge of the FWHCA.
- C. The required dispersion area for sheet flow and concentrated flow dispersion from other pervious and impervious surfaces, done in accordance with the Thurston County DDECM, may only include that portion of a FWHCA outside of the minimum area considered necessary for water quality protection or one hundred fifty feet whichever is greater.
- D. Native vegetation in the FWHCA may be increased but shall not be cleared or altered to accommodate stormwater treatment.

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- E. In no case shall dispersion methods be approved that may cause water quality impacts to the FWHCA. If water quality impacts are anticipated or observed, additional stormwater treatment methods shall be implemented.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.325 Stormwater facilities—Maintenance or repair.

Maintenance and repair of existing stormwater retention, detention, treatment and conveyance systems is permitted in fish and wildlife habitat conservation areas and associated buffers, consistent with the following:

- A. **Best Management Practices.** County-owned stormwater facilities within riparian habitat areas, marine riparian habitat area, and pond/lake buffers accommodating runoff from county roads shall be maintained consistent with the BMPs listed in the Regional Road Maintenance Program Guidelines, January 2002, and, as applicable, the Drainage Design and Erosion Control Manual for Thurston County, Chapter 15.05, TCC.
- B. **Other stormwater facilities** within marine riparian habitat areas, pond/lake buffers, and riparian habitat areas shall be maintained consistent with a maintenance plan approved by the Thurston County Department of Water and Wastewater Management in accordance with the Drainage Design and Erosion Control Manual for Thurston County. The approved maintenance plan shall provide at least as much protection for the important habitat area as the provisions of this chapter.
- C. **No Expansion.** Maintenance of stormwater facilities shall not result in their expansion within the riparian habitat, priority habitat, or marine riparian habitat area or pond/lake buffers or result in channelized discharges of water to such areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.330 Stream relocation.

The approval authority, in consultation with state and federal agencies with jurisdiction, may only allow streams to be relocated subject to state permit requirements, provided the proposal complies with the following:

- A. **Plans.** The applicant shall submit plans identifying the extent to which the stream would be altered. The plans shall depict the existing stream channel, the location of the proposed stream channel, site topography with contours at two-foot intervals or less, proposed uses or restoration of the original stream channel including any grading and filling, proposed stream bed design and materials, the channel migration zone, stream bank stabilization, riparian area enhancement/restoration, and methods to preserve and relocate existing fish and aquatic life affected by the project.
- B. **Equal or Better Habitat Function.** The replacement stream channel provides an equal or better habitat for all fish species, and affected important marine species, maintains or improves water quality, and does not have a net adverse impact on other critical areas.
- C. **Replicate or Improve Stream Characteristics.** The original ecological value of the stream and riparian habitat area shall be recreated or enhanced, to the extent feasible. The natural channel dimensions shall be replicated or improved including substantially identical depth, width, length,

- gradient, channel complexity and horizontal alignment (meander lengths) as the original location or the upstream and downstream channel. The stream bottom shall be restored with materials identical or similar to the original streambed. Removal of vegetation and large woody debris (logs) shall be minimized. However, the approval authority may allow deviation from the original conditions if it is determined that an alternative configuration or materials would improve habitat quality (e.g., by adding structure, cover, pools, spawning gravels, etc).
- D. Flooding. The flood carrying capacity of the relocated stream and floodplain shall not be diminished, as demonstrated by a professional engineer licensed in the State of Washington. (Also see Chapter 24.20 TCC, Frequently Flooded Areas.)
- E. Channel Migration Zone. The applicant shall identify the channel migration zone for the watercourse at the project site and for the reach upstream and downstream of the site (for a distance of at least five hundred feet). The design and construction of the project shall not preclude channel movement, except as necessary to protect public safety or existing structures, consistent with TCC 24.25.300.
- F. Impacts on Marine Habitat. Stream relocation shall minimize impacts to important marine habitat protected by this chapter. Any impacts to such areas shall be mitigated. Relocated streams entering Puget Sound shall not be contained in pipes within the marine riparian habitat area, with the exception of road crossings permitted consistent with this chapter.
- G. Riparian Width and Condition. Any stream that is relocated shall have a riparian habitat area width as specified in Table 24.25-1 or as modified pursuant to TCC 24.25.015-24.25.040. The stream bank configuration shall be restored to the original or improved conditions, consistent with the latest edition of WDFW's Integrated Streambank Protection Guidelines. The riparian habitat area shall be replanted with native vegetation that replicates the natural, undisturbed riparian condition in species, size and densities.
- H. Blockages. Stream alteration projects in Type S and F streams shall not result in blockage of side channels that would impede fish or adversely impact other priority wildlife species. Known fish barriers in side channels involved in the project site shall be removed as part of the approved stream alteration project.
- I. Monitoring and Surety. The applicant shall submit a monitoring plan for county approval to ensure that the project functions as approved. The applicant also shall submit a surety to the county, consistent with TCC 24.70, sufficient to correct any project failures or to replace any vegetation that does not survive.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.340 Utility lines and facilities—New.

Installation of utility lines and facilities is permitted in existing rights-of-way and utility corridors consistent with applicable regulations (see Title 13, TCC). The alignment of underground utility lines outside of existing rights-of-way shall avoid important habitat areas to the greatest extent possible. The approval authority may allow underground utility lines within these areas when it is determined that there are no practicable alternatives or if the utility lines will be consolidated with a road crossing or parallel to an existing utility crossing at the minimum separation distances established by the county for such uses.

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- A. Utility Corridors. Utility corridor alignment, construction, restoration, and maintenance shall adhere to the following standards:
1. Utility corridor alignment shall fall outside of important habitat areas and associated buffers to the maximum extent possible where it would have the least impact on the functions of important habitat area and associated buffers. The approval authority may require submission of a feasibility study that demonstrates that alternative routing with less impact on important habitat areas is not possible. Utility corridors shall not be located in habitat used for salmonid rearing or spawning or by a species listed as endangered or threatened by the state or federal government unless there is no other crossing site with less impact on these species and the habitat functions.
 2. Utility corridors shall not parallel a stream within a riparian habitat area unless there is no alternative.
 3. The utility corridor shall have the minimum width practicable.
 4. The utility corridor alignment and utility installation shall not cause an increased risk of landslide or significant erosion that would impact an important habitat.
 5. Utility corridor construction and maintenance shall maintain and protect the hydrologic and hydraulic functions of streams.
 6. Clearing shall be limited to the minimum necessary to locate the utility. Cutting of conifer trees greater than twelve inches in diameter (at four and one-half feet above the ground on the uphill side of the tree) shall be avoided to the maximum extent possible and priority habitats preserved, consistent with the preservation of the most important habitat.
 7. The utility corridor shall provide for other necessary uses and facilities whenever possible. Conduit containing new utilities shall be sized to provide capacity for additional lines and cables when feasible.
 8. Utility corridors shall be revegetated with appropriate native vegetation, compatible with the utility facility and, whenever possible, equivalent to preconstruction densities. Restoration shall occur immediately upon completion of construction or soon thereafter under seasonal constraints or work windows established pursuant to this chapter. The applicant shall submit a performance surety consistent with Chapter 24.70 TCC to ensure that such vegetation survives or is replaced.
- B. Stream Crossings. New utility lines and cables, sewer lines, and water lines are permitted to cross streams if they are in compliance with applicable local, state and federal regulations, and the following standards.
1. Dry Streams. Dry, intermittent streams may be crossed with open cuts during a time period approved by the county and any agency with jurisdiction.
 2. Existing Crossings. Where possible, new lines and cables crossing perennial streams shall be contained within an existing roadbed, railroad bed, bridge, elevated walkway, conduit, or other existing structure.
 3. Boring. When it is not possible to use existing crossings, new crossings shall, when physically and economically feasible, be accomplished by boring beneath the scour depth and hyporheic zone of the of the stream's active channel and, where documented, the one-hundred-year channel

migration zone. (See TCC 24.20.045 and 24.20.055). Bore pits associated with the crossings shall be restored upon project completion.

4. **Alignment.** When use of existing structures or boring is not feasible to accommodate new utility lines, the stream/riparian habitat area crossing shall be aligned perpendicular to the channel where possible. If that is not possible, stream crossings shall be aligned at an angle greater than sixty degrees to the centerline of the stream channel consistent with the preservation of the most important habitat, as determined by the approval authority in consultation with the WDFW.
 5. **Staging Areas.** Staging areas for equipment and materials shall be located outside of the important habitat area.
 6. **Maintenance Plan.** Applicants shall submit a maintenance plan for the corridor for approval by the county consistent with the provisions of this chapter.
 7. **Overhead utility crossings of streams** may be permitted if the review authority determines that it is method with the least impact on the critical area.
- C. **Individual Service Lines.** Overhead lines or cables serving an individual use are permitted if no alternative is available, they meet state and federal requirements and do not impair wildlife use of the important habitat area. Poles supporting such lines shall be located outside of the important habitat area when feasible. If a pole is necessary within the important habitat area, it shall be located where it would be least damaging to the habitat, as determined by the approval authority in consultation with the WDFW.

Buried service lines serving an individual use are permitted upon demonstration that they will not have an adverse impact on the important habitat area. The site shall be restored upon completion of the utility installation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.350 Vegetation removal—General.

For guidance regarding vegetation removal along marine bluffs, see the Vegetation Management Guide for Puget Sound Bluff Property Owners, Washington Department of Ecology. Also see TCC 24.25.140.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.360 Vegetation removal—Native vegetation.

Removal of native vegetation within priority habitat, marine riparian habitat areas, and riparian habitat areas shall be prohibited except as provided for in this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.370 Vegetation removal—Oak woodlands.

Removal of Douglas fir trees within oak woodlands and thinning of oaks within oak savanna habitat is allowed subject to county approval based on a critical area report (e.g. Habitat Management Plan) that demonstrates that these activities will enhance the habitat.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.380 Vegetation removal—Noxious weeds and invasive plants.

- A. Removal of noxious weeds, under the direction of the Thurston County Noxious Weed Control Board, is permitted in important habitat areas consistent with a county approved integrated pest management plan, applicable county and state regulations, and this section.
- B. Removal of invasive plants is permitted subject to the criteria in this section. Plant removal shall be performed such that it will not increase the likelihood of stream bank erosion, marine bluff erosion (see Chapter 24.15 TCC), significantly damage untargeted vegetation, or impair any habitat functions. The method of removal shall be approved in writing by Thurston County Resource Stewardship Department, consistent with applicable county, state, and federal regulations.
- C. Hand tools shall be used for plant removal unless the approval authority determines that the scale of the project warrants use of small scale equipment (e.g., riding mowers or light mechanical cultivating equipment) or other method (i.e., application of herbicide with a state and federally approved formulation by a licensed applicator in accordance with the safe application practices on the label) and use of the equipment/method does not pose a significant risk to untargeted areas, habitat functions, or water quality.
- D. Erosion shall be effectively controlled and exposed areas shall be stabilized immediately following plant removal consistent with Chapter 15.05 TCC. If the area of exposed soil exceeds one hundred square feet, it shall be planted with appropriate native plant species present in the area at a density that will provide complete ground cover at maturity, unless the approval authority determines that the area will revegetate naturally without jeopardizing water quality or the important habitat area.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.390 Vegetation removal—Hazard trees.

The county may authorize the limbing, thinning or removal of hazard trees in important habitat areas and associated buffers provided that:

- A. The county may require the applicant to submit a report from a certified arborist or professional forester that documents the hazard. If so, the arborist shall recommend suitable replacement trees for any trees that are removed pursuant to this subsection.
- B. Tree cutting is limited to limbing or crown thinning in compliance with National Arborist Association pruning standards, unless the tree has a disease that would jeopardize the survival of other trees, or felling the tree is otherwise justified by the landowner/expert. Where limbing or crown thinning is not sufficient to address the hazard, the tree shall be pushed over into the important wildlife habitat and toward a stream or marine waters if present.
- C. Snags shall be left in place to provide habitat unless they have a disease that would jeopardize other trees. All trees and branches cut in the important habitat area and buffer shall remain there unless the tree is diseased.
- D. The landowner shall replace any tree that is taken down with field grown native trees at least two feet in height. In riparian habitat areas, replacement trees shall be native and appropriate to the location, such as Oregon white oak in prairie riparian habitat. Replacement ratios shall be based

on the tree species impacted. Appropriate prairie adapted species shall be planted in prairie areas provided that they do not interfere with the integrity or survival of an oak stand. Replacement trees shall be planted from October to February. The county may also require that a watering, maintenance and monitoring plan be submitted to ensure their survival.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.400 Vegetation removal—Other.

Other vegetation may be removed from important habitat areas and associated buffers as follows:

- A. Removal of vegetation to the minimum extent necessary for surveying or testing purposes, as determined by the approval authority.
- B. Harvesting of plants and plant materials for restoration and enhancement projects provided the harvested material does not comprise more than twenty percent of any single plant, the species harvested comprises forty percent or more of the vegetation in the important habitat area/buffer on site, the harvested material consists of woody stems and twigs, and no root material is harvested, except as provided for in this section.
- C. Salvage of whole plants in areas approved for development.
- D. Removal of vegetation as part of an approved habitat restoration/enhancement project in the important habitat area.
- E. Pruning and/or limb thinning

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.410 Water dependent uses.

The approval authority may allow alteration of the riparian habitat area, marine riparian habitat area, or pond buffer to the minimum extent necessary to accommodate water dependent structures and uses (as defined in the Shoreline Master Program for the Thurston Region, as amended) authorized by the shoreline master program when no other practicable alternative exists. Such uses shall be designed and installed to avoid or, where that is not possible, minimize impacts on important wildlife habitat consistent with the provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.25.420 Wells—New.

- A. New individual and community wells serving approved uses shall only be allowed within important habitat area if there is not sufficient buildable area on the property outside the habitat area to accommodate the well, as determined by the approval authority. New well houses are not permitted in riparian habitat areas, marine riparian habitat area, pond buffers or priority species conservation areas. Also see Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies.
- B. Access to wells in important habitat areas shall be by a pervious trail no more than four feet in width unless the approval authority determines that it is necessary to provide vehicular access to a

community well. In that case, the approval authority may authorize an unimproved access of minimal width (no greater than eight feet) to provide access for maintenance vehicles.

- C. Maintenance of the trail/access road shall not involve the use of herbicides or other hazardous materials.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

APPENDIX 24.25-1

Table 24.25-4. Habitats of Local Importance

Habitat	Purpose of Habitat/Basis for Listing	Related Species
Cottonwood floodplains	Current floodplain regulations do not protect this habitat from being cleared for converting to agricultural uses. This is a habitat found only along the Nisqually River in Thurston County. Cottonwoods are a keystone species in many riparian zones (Johnson et al 2001).	Red-eyed vireo
Balds (dry plant communities, grasslands)	Globally unique and rare plant community. Primarily located in SE corner of Thurston County, vicinity of Bald Hills. Similar to prairies, but smaller and shallower soils (associated with bedrock outcrops).	
Prairie or Westside Prairie	Important prairie or westside prairie habitat means herbaceous, non-forested (forested means greater than or equal to sixty percent forest canopy cover) plant communities that can either take the form of a dry prairie where soils are well-drained or a wet prairie. Priority dry prairie areas have a minimum size of one acre. In addition, some areas dominated by Scot's (Scotch) Broom (non-native shrub) or other invasive species to prairies shall be considered prairie if the area is restorable and when there are native prairie species in the understory below the shrubs. Such marginal and restorable areas can be less valuable, but may have significant value if they are large in area, or in a landscape that connects two or more prairies. Small areas less than one acre with characteristics meeting the definition of prairie habitat which are functionally connected to another larger prairie habitat within approximately one half mile are also important prairie habitat areas. Mima mounds shall be preserved to the greatest practicable extent as determined by the review authority. See the definitions for prairie habitat, dry prairie, and wet prairie.	Mazama pocket gopher, Taylor's checkerspot butterfly, Mardon skipper, streaked horned lark

Oregon White Oak Habitat	Important Oak Habitat means stands of Oregon white oak (<i>Quercus garryana</i>) or oak/conifer associations where canopy coverage of the oak component of the stand is twenty-five percent or more; or where total canopy coverage of the stand is less than twenty-five percent, but oak accounts for at least fifty percent of the canopy coverage. The latter is often referred to as oak savanna. Important oak habitat consists of stands greater than or equal to one acre (0.4 hectares) in size. Single oaks or stands less than one acre (0.4 hectares) shall also be considered an important habitat when found to be particularly valuable to fish and wildlife (i.e. they contain many cavities, have a large diameter at breast height, are used by priority species, or have a large canopy), or are located in degraded habitat areas. Individual oak trees and stands of pure oak or oak conifer associations less than one acre in size that are located in close proximity to an oak habitat larger than one acre may also be considered an important habitat.	Western gray squirrel
Springs and seeps (includes mineral springs)	Forested springs/seeps are protected in the Forests and Fish Report to protect stream associated amphibians (SAA), protect water quality, etc. fifty-foot no cut buffer required. Mineral springs are important to Band-tailed pigeons, especially during breeding season.	Band Tailed Pigeon

Table 24.25-5. Wildlife Species of Local Importance

Common Name	Scientific Name	Basis for Listing as Locally Important
<i>Birds:</i>		<i>The following bird species depend on prairie habitat and are declining in population due to loss of habitat. They serve as indicator species for relatively large and/or healthy prairie and may assist in protection of prairie habitat.</i>
Western Meadowlark	<i>Sturnell neglecta</i>	Prairie species. Needs large open areas. Found on Joint Base Lewis McChord (JBLM), Mima Mounds, and Olympia Airport year round.
Lazuli Bunting	<i>Passerina amoena</i>	Prairie species. Declining populations. Found near Scatter Creek and Joint Base Lewis McChord (JBLM).
Common nighthawk	<i>Chordeiles minor</i>	Prairie species. Population declining significantly.

American Kestrel	Falco sparverius	Prairie species. Population is declining. Nests in cavities. Can use nest boxes.
Northern Harrier	Circus cyaneus	Prairie and herbaceous wetlands. Ground nester. Uncommon breeding in Washington.
American Bittern	Botaurus lentiginosus	State of Washington Birds classifies A. Bittern as a Species of Immediate Concern for wetlands.
Olive-sided Flycatcher	Contopus cooperi	State of Washington Birds classifies Olive-sided Flycatcher as a Species of Immediate Concern for forests.
Short-eared owl	Asio flammeus	State of Wa Birds classifies Short-eared owl as a Species of High Concern for grasslands.
<i>Amphibians and Reptiles:</i>		<i>The following amphibian species ranges have been significantly reduced due to habitat alteration and development. Sensitive to site and landscape alterations, specifically that limit breeding and foraging site connectivity, and dispersal/seasonal corridors.</i>
Olympic Torrent Salamander	Rhyacotriton olympicus	Three of the four species of Rhyacotritoninae occur in Thurston County - Olympic Torrent, Columbia Torrent, and Cascade Torrent. Cascade and Columbia Torrent salamanders are both listed as State Candidate Species by WDFW. Erik Neatherlin of WDFW and Bill Leonard, Biologist with WDOT, both recommend listing the Olympic Torrent Salamander as a Locally Important Species due to their association with old-growth forests and sensitivity to increased temperatures and sedimentation in streams and headwaters.
Tailed Frog	Ascaphus truei	Sensitive to timber harvest. Survival may depend on protection of cool flowing streams required for breeding and larval development. Likely to be affected by increased water temperatures occurring after timber harvest. Headwater stream protection through buffers is important mitigation measure.
Cope's Giant Salamander	Dicamptodon copei	Cope's giant salamander (Dicamptodon copei) are sensitive to habitat change and fragmentation from development. Both species would be expected to occur in the extreme SE portion of the county, similar to the two PHS species, Cascades torrent salamander and Van Dyke's salamander. The SE portion of the county in the headwaters of the Deschutes systems and the Nisqually system in the vicinity of Alder lake should be considered a "hot" region for all four

		(2 PHS, 2 local species mentioned) as this area is the only place they are likely to occur in the county. (Source: E. Neatherlin, WDFW)
Pacific Giant Salamander	Dicamptodon tenebrosus	May be associated with old-growth forests. Found in moist coniferous forests. During breeding season found in or near streams. Closely associated with high gradient streams with coarse substrate.

Table 24.25-6. Prairie Soils

Series Name	SCS Map Symbol #
Baldhill	5, 6, 7, 8
Cagey	20
Everett	32, 33
Grove	42
Indianola	46, 47
Nisqually	73, 74
Spana	109
Spanaway	110, 111, 112, 113, 114
Tenino	117

Table 24.25-7. Diagnostic Wet Prairie Plants

Scientific Name	Common Name
Camassia leichtlinii	giant camas
Camassia quamash	common camas
Carex densa	dense sedge*
Carex feta	green-sheath sedge
Carex tumulicola	foot-hill sedge
Carex unilateralis	one-sided sedge
Deschampsia cespitosa	tufted hairgrass

<i>Deschampsia danthonioides</i>	annual hairgrass
<i>Downingia yina</i>	Cascade downingia
<i>Eryngium petiolatum</i>	Oregon coyote thistle*
<i>Lomatium bradshawii</i>	Bradshaw's lomatium* Federally Endangered Species
<i>Lotus pinnatus</i>	bog bird's-foot-trefoil*
<i>Lupinus polyphyllus</i>	large-leaf lupine
<i>Perideridia gairdneri</i>	Gairdner's yampah
<i>Plagiobothrys figuratus</i>	fragrant popcorn flower
<i>Polemonium carneum</i>	great polemonium*
<i>Polygonum bistortoides</i>	American bistort*
<i>Potentilla gracilis</i>	graceful (fanleaf) cinquefoil
<i>Ranunculus alismifolius</i>	plantain-leaf buttercup
<i>Ranunculus orthorhynchus</i>	bird's-food buttercup
<i>Saxifraga integrifolia</i>	northwestern saxifrage
<i>Saxifraga oregana</i>	bog saxifrage
<i>Sidalcea malviflora</i> var. <i>virgata</i>	rose checkermallow*
<i>Sisyrinchium idahoense</i>	Idaho blue-eyed-grass
<i>Veratrum californicum</i>	California false hellebore
<i>Veratrum viride</i>	American false hellebore*
* Rare Wet Prairie Species	

Table 24.25-8. Diagnostic Dry Prairie Plants (Common and Rare)

Scientific Name	Common Name
<i>Apocynum androsaemifolium</i>	spreading dogbane
<i>Balsamorhiza deltoidea</i>	deltoid balsamroot
<i>Brodiaea coronaria</i> ssp. <i>coronaria</i>	harvest firecracker-flower
<i>Camassia quamash</i>	common camas

<i>Carex inops</i> ssp. <i>inops</i>	long-stolon sedge
<i>Castilleja levisecta</i>	golden Indian paintbrush * Federal Threatened Species
<i>Castilleja hispida</i>	harsh Indian paintbrush
<i>Danthonia californica</i>	California oatgrass
<i>Delphinium menziesii</i>	Puget Sound larkspur
<i>Delphinium nuttallii</i>	upland larkspur
<i>Dodecatheon hendersonii</i>	Henderson's shootingstar
<i>Erigeron speciosus</i>	showy fleabane (aspen fleabane)
<i>Eriophyllum lanatum</i> var. <i>lanatum</i>	common woolly sunflower
<i>Festuca idahoensis</i> v. <i>roemerii</i>	Roemer's fescue
<i>Fragaria virginiana</i>	Virginia strawberry
<i>Fritillaria affinis</i>	chocolate lily
<i>Hieracium scouleri</i>	hound's-tongue hawkweed
<i>Koeleria macrantha</i> (<i>crinata</i>)	prairie Junegrass
<i>Linanthus bicolor</i>	bicolored desert-gold
<i>Lomatium triternatum</i>	ternate desert-parsley
<i>Lomatium utriculatum</i>	foothills desert-parsley
<i>Lomatium nudicaule</i>	barestem biscuitroot
<i>Lupinus albicaulis</i>	sickle-keel lupine
<i>Lupinus lepidus</i> var. <i>lepidus</i>	prairie lupine
<i>Microseris laciniata</i>	cut-leaf silverpuffs
<i>Plectritis congesta</i>	shortspur seablush
<i>Potentilla gracillis</i>	fanleaf cinquefoil
<i>Ranunculus occidentalis</i> var. <i>occidentalis</i>	western buttercup
<i>Saxifraga integrifolia</i>	northwestern saxifrage
<i>Sericocarpus rigidus</i>	aster Curtus (white topped aster)

Silene scouleri	Scouler's catchfly
Sisyrinchium idahoense	Idaho blue-eyed-grass
Solidago missouriensis	Missouri goldenrod
Solidago simplex var. simplex (S. Spathulata)	sticky goldenrod
Solidago spathulata	spikelike goldenrod
Trifolium willdenowii (T. tridentatum)	springbank clover
Triteleia grandiflora	Howell's triteleia
Triteleia hyacinthina	white triteleia
Viola adunca	early blue violet (sand violet)
Viola praemorsa var. nuttallii	upland yellow violet
Zigadenus venenosus var. venenosus	meadow death-camas

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

8. Wetlands (Chapter 24.30 TCC)

24.30.005 General purposes.

The purposes of this chapter are to:

- A. Achieve no net loss of wetlands and minimize adverse impacts.
- B. Maintain wetland and buffer functions, such as, but not limited to, cleansing surface water, storing and conveying floodwater and providing fish and wildlife habitat, by avoiding or, where that is not possible, minimizing and mitigating impacts to wetlands and their buffers.
- C. Establish wetland buffers based on the wetland's functions and values, sensitivity to impacts, rarity, whether or not it is replaceable, and site conditions.
- D. Provide for uses and activities in wetlands and associated buffers that have negligible impacts on such areas and provide for other uses that must be located in wetlands or buffers in a way that will avoid or minimize potential impacts.
- E. Provide for mitigation of impacts to wetlands and their buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.010 Applicability.

This chapter applies to all property within unincorporated Thurston County containing wetlands as defined in Chapter 24.03 TCC, and/or associated buffers required by this chapter. The Thurston County Wetlands Inventory on file at the resource stewardship department identifies the approximate location of many wetlands. However, it is the actual presence of a wetland and/or buffer on a parcel that triggers the requirements of this section, regardless of whether or not the wetland has been mapped.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.015 Exempted wetlands.

In some cases there may be an administrative need to place size thresholds on wetlands that are to be regulated. It is not possible to conclude from size alone what functions a particular wetland may be providing. If there are alternative mitigations options available, such as mitigation banking or in-lieu fee (ILF) programs, then small impacts within the service area of the bank or ILF should be mitigated by using the available alternative mitigation options. Wetlands exempted under this title may also be subject to state and federal regulation.

Until such time as alternative mitigation options are established for Thurston County, the following language applies:

- A. Wetlands less than one thousand square feet in size are exempt from this section if they meet any of the following criteria:
 1. They are not located in a riparian habitat area or critical area buffer as described in this title;
 2. They are not a functional part of a mosaic wetland (as described in the Wetland Rating System for Western Washington); or
 3. They do not provide essential habitat for priority wildlife species (see TCC 24.25.065).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.020 Determination of boundaries.

If a wetland report is required, the determination of the wetland edge or boundary shall be carried out by a qualified wetland scientist, as described in TCC 24.35.370 in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.025 Rating wetlands.

The Washington State Department of Ecology's most recently approved version of the Wetland Rating System for Western Washington shall be used to determine the wetland's category and its score for habitat, water quality, and hydrologic functions. Wetland categories and function scores shall be determined, as the wetland exists at the time of the rating, with the exception of illegal modifications.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

Note(s)—The Washington State Department of Ecology Wetland Rating System was amended in 2014. Code changes are under review. In the interim, please contact Thurston County Resource Stewardship for information about applying the new rating system to determine a wetland category and function scores.

24.30.030 Wetland categories.

- A. Category I. Category I wetlands include wetlands that are rare, particularly sensitive to disturbance, relatively undisturbed (as described in Ecology's Washington State Wetland Rating System for Western Washington) with ecological attributes that are impossible to replace within a human lifetime, or provide a high level of functions. They include:
1. Estuarine wetlands larger than one acre that are relatively undisturbed, as described in Ecology's Washington State Wetland Rating System for Western Washington (e.g., no diking, ditching, filling, cultivation, grazing, and less than ten percent vegetative cover by non-native plant species);
 2. Wetland of High Conservation Value designated by the Washington Department of Natural Resources (DNR) Natural Heritage Program due to their high quality and relatively undisturbed condition (as described in Ecology's Washington State Wetland Rating System for Western Washington), or because they support plants listed by the DNR Natural Heritage Program as threatened or endangered;
 3. All bogs;
 4. Mature and old growth forested wetlands larger than one acre;
 5. Wetlands in coastal lagoons; and
 6. Wetlands with a total score for functions of twenty-three or more points under Ecology's Wetland Rating System for Western Washington.
- B. Category II. Category II wetlands provide high levels of some functions and are difficult, though not impossible, to replace. They include:
1. Estuarine wetlands smaller than one acre and estuarine wetlands larger than one acre that are altered to a greater extent than specified in Section 24.30.030A.1;
 2. Wetlands identified by the DNR Natural Heritage Program as containing "sensitive" plant species; and
 3. Wetlands with functions scoring between twenty and twenty-two points under Ecology's Wetland Rating System for Western Washington.
- C. Category III. Category III wetlands have functions scoring between sixteen and nineteen points under Ecology's Wetland Rating System for Western Washington. Typically, they have been disturbed and contain less diverse wildlife habitat or are more isolated from other habitat than Category II wetlands.
- D. Category IV. Category IV wetlands have levels of functions scoring between nine and fifteen points under Ecology's Wetland Rating System for Western Washington. Typically, they are extensively altered.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

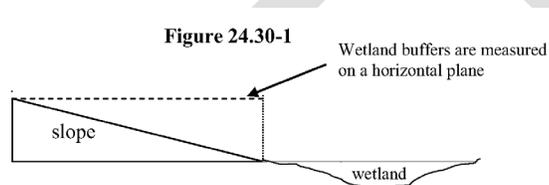
24.30.035 Wetland buffers.

To retain the natural functions of wetlands and the adjacent associated riparian functions, buffers shall be established consistent with this section. TCC 24.30.045 identifies the standard wetland buffer widths. These standard buffer widths may be reduced pursuant to TCC 24.30.050, increased pursuant to Section 24.30.055 TCC, or reconfigured pursuant to TCC 24.30.060. Buffers shall be maintained in their existing condition, except as provided for in this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.040 Wetland buffers—General standards.

- A. Measurement. Buffer widths shall be measured on a horizontal plane outward from the outer edge of the wetland, established consistent with TCC 24.30.020, along a perpendicular line.



- B. Buffers on Created Wetlands. All wetlands created, as mitigation for wetland impacts, shall have buffers consistent with Table 24.30-1, as modified by TCC 24.30.055, based on the expected wetland category and function scores upon completion of the mitigation. The approval authority in consultation with a qualified wetland scientist shall make this determination.
- C. Buffers on Enhancement Sites. The approval authority may establish buffers for wetlands that were voluntarily enhanced or restored based on the wetland's pre-enhancement condition. Buffers shall remain in effect as long as the owner of the property at the time the county authorized the enhancement retains ownership. The approval authority may require that the wetland be rated prior to the enhancement or restoration. The resource stewardship department shall record the approved buffer width and any associated rating with the auditor on the property title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.045 Wetland buffers—Standard width.

Table 24.30-1 identifies the standard buffer widths. Buffer widths are specified for both water quality and habitat protection. The widest of the applicable buffers under habitat and water quality applies.

Table 24.30-1. Standard Wetland Buffer Widths

The Larger of the Buffers for Habitat and Water Quality Applies
BUFFER TO PROTECT HABITAT

Planning Commission Public Hearing Draft
August 10, 2021

Rating for habitat from the wetland rating form under the Washington State Wetland Rating System for Western Washington, 2014.	3 L,L,L	3* L,L,L	4 M,L,L	5 M,M,L	5 H,L,L	6 M,M,M	6 H,M,L	7 H,M,M	7 H,H,L	8 H,H,M	9 H,H,H
Buffer width for habitat for all wetlands except estuarine wetlands and coastal lagoons	100'	120'	140'	160'	180'	200'	220'	240'	260'	280'	300'
Buffer width with mitigation under 24.30.050 TCC	100'	100'	105'	120'	135'	150'	165'	180'	195'	210'	225'
Buffer width for estuarine wetlands and coastal lagoons	220'										
BUFFER TO MAINTAIN WATER QUALITY											
Wetlands of high conservation value, bogs, and wetlands	250'										

<p>containing sensitive plant species documented by the DNR Natural Heritage Program</p>	
<p>Wetlands that rate 3 for habitat, score 7 or less for water quality, are less than 10,000 square feet in size and are not a functional part of a mosaic wetland, do not support priority wildlife species, and do not drain to a stream or a Category I or II wetland</p>	<p>50'</p>

* Wetlands with habitat rating of 3 and a high value water quality score of 8 or 9 using Ecology's 2014 Wetland Rating System for Western Washington.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.050 Wetland buffers—Reduced width.

The approval authority may reduce the buffer width specified in Table 24.30-1, except when prohibited by TCC 24.30.055, as provided for below. The applicant shall submit information demonstrating that the

proposed project qualifies for a reduction under this section. The approval authority may require technical review by a qualified wetland scientist in consultation with Ecology, at the applicant's expense, to verify and evaluate the information submitted by the applicant. The buffer reduction shall not adversely affect the functions of the adjacent wetlands. For a reduced buffer width, the applicant shall demonstrate compliance with all of the criteria below:

- A. **Reduced Impacts.** If a wetland or buffer mitigation plan is submitted that meets the criteria in Table 24.30-2, the approval authority may reduce the standard buffer width required by Habitat Scores, not including estuarine or coastal lagoons, by twenty-five percent, or to the extent that it equals the buffer width required in Table 24.30-1 to maintain water quality, whichever produces the wider buffer, if:
1. The approval authority determines that the proposed reduction in buffer width, coupled with the proposed mitigation plan, would result in better protection of the wetland or better wetland or buffer functions than the standard buffer without such enhancement. The approval authority shall make this determination based on the applicant's proposed mitigation plan and a comparative analysis of all wetland and buffer functions under existing and enhanced conditions (e.g., filtration of sediments, excess nutrients, and pollutants; flood storage; erosion control; moderation of stormwater impacts; and shading for water temperature moderation) prepared by the applicant's qualified wetland scientist.

Factors to be considered include, but are not limited to, meeting the criteria of Table 24.30-2, the surface roughness of the buffer (e.g., the presence of fallen trees and other material that slow the flow of water and increase the buffer's ability to retain sediment and infiltrate stormwater); the composition and density of vegetation; the wetland's position in the landscape; slope; and soils. The approval authority may consult with Ecology or others with expertise as necessary to evaluate the applicant's proposal.
 2. The degradation of the wetland and buffer was not caused while the property was in the applicant's ownership or within the previous seven years, whichever is greater. This does not apply to damage from lawful land uses prior to July 24, 2012; and
 3. The applicant submits maintenance and monitoring plan and performance surety consistent with Chapter 24.70 TCC.
 4. The buffer reduction is consistent with all other applicable requirements of this chapter.

Table 24.30-2. Required Measures to Mitigate Impacts to Wetlands

Measures are required, where applicable to a specific proposal.

Disturbance	Required Measures to Minimize Impacts
Lights	<ul style="list-style-type: none"> • Direct lights away from wetland and buffers.
Noise	<ul style="list-style-type: none"> • Locate activity that generates noise away from wetland.
	<ul style="list-style-type: none"> • If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source.
	<ul style="list-style-type: none"> • For activities that generate relatively continuous, potentially disruptive noise, such as certain heavy industry or mining, establish an additional 10

	feet heavily vegetated buffer strip immediately adjacent to the outer wetland buffer.
Toxic runoff	<ul style="list-style-type: none"> • Treat and contain any toxic runoff.
	<ul style="list-style-type: none"> • Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered.
	<ul style="list-style-type: none"> • Establish covenants limiting use of pesticides within 150 feet of wetland.
	<ul style="list-style-type: none"> • Apply integrated pest management standards.
Stormwater runoff	<ul style="list-style-type: none"> • To improve existing water quality runoff that may be impacting wetland functions. Retrofit existing stormwater detention and treatment for roads and existing adjacent development.
	<ul style="list-style-type: none"> • Prevent channelized flow from lawns that directly enters the buffer.
	<ul style="list-style-type: none"> • Use Low Intensity Development techniques (per PSAT publication on LID techniques).
Change in water regime	<ul style="list-style-type: none"> • In order to maintain wetland hydrology and discharge only clean stormwater toward the wetland. Stormwater should be treated; then infiltrated, detained, and/or dispersed outside the wetland buffer for any new runoff from impervious surfaces and new lawns. Permanent improvements to the site hydrology that would improve wetland functions and not create off-site flooding. This may include, but is not limited to, removal of a lawfully established agricultural ditch draining a wetland or delivering sediment, pollutants or excess nutrients to a wetland.
Pets and human disturbance	<ul style="list-style-type: none"> • Use privacy fencing at buffer edge OR plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion.
	<ul style="list-style-type: none"> • Place wetland and its buffer in a separate tract or protect with a conservation easement.
Dust	<ul style="list-style-type: none"> • During construction or for commercial or industrial activities, use best management practices to control dust.
Disruption of corridors or connections/habitat enhancement	<ul style="list-style-type: none"> • In order to improve habitat quality and connectivity, a vegetation enhancement plan that improves areas with minimal trees and vegetation and proposes removal of invasive vegetation and replacing it with ground cover and shrubs that will provide dense vegetative cover at maturity. Planting noninvasive plants that provide improved filtration of sediment, excess nutrients, and pollutants that may be present.
	<ul style="list-style-type: none"> • Maintain habitat connections to off-site areas that are undisturbed.

	<ul style="list-style-type: none"> • Restore corridors or connections to off-site habitats by replanting.
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B. Isolated Buffers.

1. If topographic breaks (e.g., bluffs) or a legally established road (not including logging roads), railroad or other lineal facility or barrier physically separates and functionally isolates a portion of the wetland buffer, the approval authority may allow the buffer width to be reduced to the minimum extent needed to exclude the isolated area if:
 - a. The facility or barrier was established prior to July 24, 2012; and
 - b. The area to be segregated from the buffer does not perform any biological or hydrological functions related to the wetland or the unsegregated portions of buffer.
2. The applicant shall provide the approval authority with sufficient information to enable him/her to determine whether or not the subject area qualifies under TCC 24.30.050(B)(1) above. The approval authority may require technical review by a qualified professional, at the applicant's expense, to verify and evaluate the information submitted by the applicant.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.055 Wetland buffers—Increased width.

The approval authority shall require an increase in the buffer width specified in Table 24.30-1 when a wider buffer is necessary to protect wetland and buffer functions, specified in subsections (A) and (B) below. Buffer widths expanded pursuant to this section shall not be decreased through other provisions of this chapter.

- A. **Steep Slopes.** If the wetland buffer contains a slope greater than thirty percent that is at least fifteen feet high, the buffer shall be sized per Table 24.30-1 or the approval authority, in consultation with a qualified professional, may increase the buffer width up to twenty-five percent to protect water quality and prevent impacts from erosion. Slopes defined as geologic hazard areas shall meet the standards of Chapter 24.15 TCC.
- B. **Inadequate Vegetative Cover to Maintain Water Quality.** If the standard buffer specified in Table 24.30-1 has inadequate vegetative cover to protect the wetland from sedimentation, excess nutrients, pollutants or damaging changes in pH, the approval authority, in consultation with a qualified professional, may increase the buffer width twenty-five percent to protect water quality. (For purposes of this section, inadequate buffers lack dense, continuous vegetation spanning a distance specified Table 24.30-1 for maintenance of water quality, or as modified by subsection (A) above.)

In lieu of increasing the buffer width, the approval authority may allow implementation of a buffer planting plan as described in a revegetation/enhancement plan. This buffer planting plan shall provide for planting of all bare and sparsely vegetated areas within the portion of the buffer needed to maintain water quality (per Table 24.30-1 or as modified by subsection (A) above) with grasses and native shrubs, at densities that will effectively filter/absorb sediment, nutrients and pollutants, as determined by the approval authority. The applicant shall submit a surety consistent

with Chapter 24.70 TCC and provide for monitoring and maintenance to ensure survival or replacement of the planted vegetation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.060 Wetland buffers—Reconfiguration.

The approval authority may authorize or require reconfiguration of wetland buffers as follows:

- A. Preservation of High Quality Habitat.
 - 1. If the wetland or buffer contains variations in sensitivity or habitat quality the approval authority, in consultation with WDFW or Ecology, may require reconfiguration of the buffer to preserve the higher quality/sensitive habitat.
 - 2. If necessary to maintain connectivity to areas that provide important associated wildlife habitat, or if the area abutting the standard buffer contains habitat sustaining species listed under the federal Endangered Species Act (64 FR 14307), state priority wildlife species, or species of local importance (see TCC 24.25.065(C), the approval authority may, in consultation with WDFW, require reconfiguration of buffers to provide connection to the adjacent habitat.
 - 3. Reconfigured buffers authorized by this section shall be no less than the width specified in Table 24.30-1 to maintain water quality, or no less than seventy-five percent of the standard buffer, whichever is greater, and shall contain the same square footage as the standard buffer. The reconfigured buffer shall not exceed one hundred percent of the square footage of the standard buffer, as modified pursuant to TCC 24.30.050(B) or 24.30.055, without the landowner's consent.
- B. Development Consistent with Preservation of Wetland and Buffer Functions. The approval authority may reconfigure the buffer width, except for buffers associated with bogs and wetlands of high conservation value, to accommodate proposed development. If necessary, the approval authority may have a qualified professional review and evaluate the submitted information at the applicant's expense. The applicant shall demonstrate compliance with all of the criteria below.
 - 1. The proposed use cannot be accommodated on the site without reconfiguration of the buffer (see Section 24.30.050).
 - 2. The scale, design, or orientation of the proposed land use has been adjusted to the extent practical to minimize buffer alteration.
 - 3. Demonstration that the wetland and/or buffer contains variations in sensitivity due to existing physical characteristics (e.g., variations in topography, soils, vegetation, or wildlife usage), and that the wetland functions would benefit from a wider buffer in places, and would not be adversely impacted by a narrower buffer in other places.
 - 4. If the wetland has a wildlife habitat score of five or more points under Ecology's Washington State Wetland Rating System for Western Washington, the applicant shall submit a habitat assessment demonstrating that wildlife habitat will not be significantly diminished and that documented habitat-sustaining priority or locally important wildlife species (see Section 24.25.065) will not be affected.

5. The reduction in buffer width will occur where it will have the least potential impact on the wetland and buffer functions. Area will be added to portions of the buffer where it would most benefit wetland and buffer functions. The reconfigured buffer shall maintain all wetland functions.
 6. Any landscaped area shall extend no more than fifteen feet from the edge of the structure's footprint (outside wall at the foundation) toward the wetland if the buffer width reduction allows the landscaped area to intrude into the area that was formerly buffer.
 7. The reconfigured buffer shall be no less than one hundred feet wide at any point, or no less than seventy-five percent of the standard buffer, whichever is more. The reconfigured buffer shall contain the same square footage as the standard buffer. It shall not exceed one hundred percent of square footage of the standard buffer, as modified pursuant to TCC 24.30.050(B) or 24.30.055, without the landowner's consent.
 8. The reconfiguration is accomplished within the project site boundaries or in an abutting conservation easement or tract approved by the county that protects the buffer from alteration, except as provided for in this section.
- C. Other buffer reconfigurations that do not meet the above criteria require a reasonable use exception (Chapter 24.45 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.065 Wetland buffers—Tree protection.

Trees within wetland buffers with driplines that extend beyond the upland edge (furthest from the wetland) of buffers with a wildlife habitat rating of five points or more under the Wetland Rating System for Western Washington shall be protected as follows:

- A. A tree protection area extending a minimum of five feet beyond the dripline of trees twelve inches or greater in diameter (at four and one-half feet above the ground) and stands of trees shall be established and protected from disturbance during site development.
- B. Tree protection areas shall be identified on all applicable site development and construction drawings submitted to the county.
- C. Temporary fencing at least thirty inches tall shall be erected along the perimeter of the tree protection areas prior to the initiation of any clearing or grading. The fencing shall be posted with signage clearly identifying the tree protection area as a no entry area. If the tree protection area spans more than 0.25 miles, the perimeter of the protection area may be staked and flagged rather than fenced. The fencing or stakes shall remain in place throughout site development.
- D. Clearing, grading, filling or other development activities are prohibited within the tree protection area.
- E. Vehicle travel, parking and storage of construction materials and fuel are prohibited in tree protection areas.
- F. The county may authorize use of alternate tree protection techniques that provide an equal or greater level of protection.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.070 Wetland mitigation.

All unavoidable adverse impacts to wetlands and associated buffers shall be mitigated consistent with the provisions of this section. A qualified wetland scientist shall identify the wetland functions using the best professional judgment and the best available technology, consistent with guidance from the department of ecology, including but not limited to the following documents: Wetland Rating System for Western Washington; Wetland Mitigation in Washington State, Parts 1 and 2; and Selecting Wetland Mitigation Sites Using a Watershed Approach.

- A. **Equivalent or Improved Wetland Functions.** Mitigation shall achieve equivalent or improved wetland and buffer functions. The applicant's qualified wetland scientist shall demonstrate that the proposed mitigation will provide functions that are at least equal to the lost or diminished wetland and buffer functions or explain the reasons why that level of mitigation cannot be attained (e.g., it may not be possible to mitigate unavoidable impacts to a bog).
- B. **Location of Mitigation.** Mitigation shall be on-site unless the approval authority, in consultation with Ecology, determines that paragraphs (1)—(5) below apply. In that case, mitigation may be allowed off-site within the subwatershed of the impacted site. When considering off-site mitigation, preference should be given to using alternative mitigation, such as a mitigation bank, an in-lieu fee program, or advanced mitigation.
 - 1. There are no mitigation opportunities available on-site due to physical constraints such as hydrology, soils, the size of the property, the location of existing development, the presence of noxious weeds or invasive plants; potential adverse impacts from surrounding land uses; or other factors; or
 - 2. On-site mitigation would require elimination of high quality upland habitat; or
 - 3. Off-site mitigation has a greater likelihood of providing equal or improved wetland and buffer functions than mitigation of the impacted wetland and buffer; or
 - 4. The hydrology and ecosystem of the impacted site will not be substantially damaged by the proposed wetland and/or buffer impacts; or
 - 5. County-adopted goals or policies for flood storage, flood conveyance, habitat or other wetland functions justify location of the mitigation measures at another site.
- C. **Mitigation In-kind.** Mitigation for impacts to estuarine wetlands, coastal lagoons and associated buffers shall be as determined to be appropriate by the approval authority in consultation with the WDFW and Ecology. Mitigation for all other lost or diminished wetland and buffer functions shall be in-kind, unless the applicant demonstrates that:
 - 1. Higher levels of wetland and buffer functions would result from an alternate approach; or
 - 2. The impacted wetland and buffer provide minimal functions (e.g., they score less than five points for habitat and less than five points for water quality under Ecology's Wetland Rating System for Western Washington) and the proposed mitigation action(s) will result in a wetland with greater functions or provide functions shown to be limiting within a watershed; or

3. Physical constraints make in-kind mitigation impossible; or
 4. Out-of-kind replacement will best meet the county's adopted goals or policies for the watershed; or
 5. The impacted wetland cannot be mitigated in-kind, based on best available science.
- D. **Wetland Mitigation Timing.** Where feasible, mitigation projects shall be completed prior to the related wetland alteration or immediately following temporary disturbance of a wetland or buffer. The approval authority may allow the required mitigation to begin up to one year following occupancy of the associated project or commencement of the permitted activity if the applicant's qualified wetland scientist demonstrates to the approval authority's satisfaction that the delay is warranted and will not create environmental degradation or be injurious to the public health, safety, or welfare. Reasons for the requested delay could include, but are not limited to, environmental conditions that could cause project failure, "work windows" specified by the WDFW to avoid fish or wildlife impacts, or seasonal planting or grading constraints. The applicant shall submit a surety consistent with Chapter 24.70 TCC to ensure the completion and success of the required mitigation.
- E. **Protection of the Mitigation Site.** The area where the mitigation occurred and any associated buffer shall be located in a critical area tract or a conservation easement consistent with Chapter 24.65 TCC.
- F. **Mitigation for Illegal Alterations.** See Title 26, Code Enforcement.
- (Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15274, § 2(Att. B)JJJ, 2-23-2016; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.075 Wetland mitigation—Types.

Mitigation for lost or diminished wetland and buffer functions shall rely on a type listed below in order of preference. A lower preference form of mitigation shall only be used if the applicant's qualified wetland scientist demonstrates to the approval authority's satisfaction that all higher ranked types of mitigation are not viable, consistent with the criteria in this section.

- A. **Restoration.** Rectifying the impact by restoring the affected wetland and associated buffer. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland or its buffer. For the purpose of tracking net gains in wetland acres, restoration is divided into:
 1. **Re-establishment.** Re-establishing a wetland and buffer on a site formerly occupied by a wetland. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland or buffer. Re-establishment results in a gain in wetland acres (and functions). Activities could include removing fill material, plugging ditches, or breaking drain tiles.
 2. **Rehabilitation.** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland.

- B. Establishment (Creation). The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site where a wetland did not previously exist. Establishment results in a gain in wetland acres. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species.
1. If a site is not available for wetland restoration to compensate for expected wetland and/or buffer impacts, the approval authority may authorize creation of a wetland and buffer upon demonstration by the applicant's qualified wetland scientist that:
 - a. The hydrology and soil conditions at the proposed mitigation site are conducive for sustaining the proposed wetland and that creation of a wetland at the site will not likely cause hydrologic problems elsewhere;
 - b. The proposed mitigation site does not contain invasive plants or noxious weeds or that such vegetation will be completely eradicated at the site;
 - c. Adjacent land uses and site conditions do not jeopardize the viability of the proposed wetland and buffer (e.g., due to the presence of invasive plants or noxious weeds, stormwater runoff, noise, light, or other impacts); and
 - d. The proposed wetland and buffer will eventually be self-sustaining with little or no long-term maintenance.
- C. Enhancement. The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these activities. Habitat enhancement is not eligible as a sole method of mitigation. Applicants proposing to enhance wetlands or associated buffers shall demonstrate how the proposed enhancement will increase the wetland's/buffer's water quality functions, how this increase in function will adequately compensate for the impacts, and how all other existing wetland functions at the mitigation site will be protected.
- D. Protection/Maintenance (Preservation) Removing a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This includes the purchase of land or easements, repairing water control structures or fences. This term also includes activities commonly associated with the term "preservation." Preservation does not result in a gain of wetland acres. Permanent protection of a Category I or II wetland and associated buffers at risk of degradation, will be used if:
1. The approval authority determines that the proposed preservation is the best mitigation option;
 2. The proposed preservation site is under threat of undesirable ecological change due to permitted, planned, or likely actions that will not be adequately mitigated under existing regulations;
 3. The area proposed for preservation is of high quality. The following features may be indicative of high quality sites:

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- a. Category I or II wetland rating using the wetland rating system for western Washington;
 - b. Rare wetland type (for example, bogs, mature forested wetlands, estuarine wetlands);
 - c. The presence of habitat for priority or locally important wildlife species (see Chapter 24.25.065 TCC); or
 - d. Priority sites in an adopted watershed plan.
4. Permanent preservation of the wetland and buffer will be provided through a conservation easement or tract held by a land trust, consistent with Chapter 24.65 TCC and TCC 24.30.340—24.30.410.
 5. Ratios for preservation in combination with other forms of mitigation generally range from 10:1 to 20:1, as determined on a case-by-case basis, depending on the quality of the wetlands being impacted and the quality of the wetlands being preserved. Ratios for preservation as the sole means of mitigation generally start at 20:1.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.078 Wetland mitigation—Approaches.

Compensatory mitigation for lost or diminished wetland and buffer functions shall rely on an approach listed below in order of preference. A lower preference approach to mitigation shall only be used if the applicant's qualified wetland scientist demonstrates to the approval authority's satisfaction that all higher ranked approaches to mitigation are not viable, consistent with the criteria in this section.

- A. **Permittee-Responsible Mitigation.** In this situation, the permittee performs the mitigation after the permit is issued and is ultimately responsible for implementation and success of the mitigation. Permittee-responsible mitigation may occur at the site of the permitted impacts or at an off-site location within the same watershed.
- B. **Cooperative Mitigation Projects.** The approval authority may encourage, facilitate and approve cooperative projects wherein a single applicant or other organization with demonstrated capability may undertake a mitigation project with funding from other applicants if:
 1. Construction of one or several larger wetlands is preferable to several small wetlands; and
 2. Persons proposing cooperative compensation projects submit a joint permit application; demonstrate the organizational and fiscal capability to act cooperatively; and demonstrate that land acquisition, construction, long-term monitoring and management can and will be provided consistent with the provisions of this section.
- C. **Wetland Mitigation Banks for Unavoidable Impacts to Wetlands.** An applicant may use credits from a wetland mitigation bank certified under Chapter 173-700 WAC if:
 1. The approval authority determines that it would provide appropriate compensation for the proposed impacts; and
 2. The mitigation will occur within the service area where the wetland or buffer impact would occur; and

3. The proposed use of credits is consistent with the terms and conditions of the certified bank instrument; and
 4. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the certified bank instrument; and
 5. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the certified bank instrument.
- D. In-Lieu Fee Mitigation. Is an alternative mitigation program for unavoidable impacts to wetlands. An approved in-lieu-fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor, a governmental or non-profit natural resource management entity. Credits from an approved in-lieu fee program may be used when paragraphs (1)—(6) below apply:
1. The approval authority determines that it would provide environmentally appropriate compensation for the proposed impacts.
 2. The mitigation will occur on a site identified using the site selection and prioritization process in the approved in-lieu-fee program instrument.
 3. The proposed use of credits is consistent with the terms and conditions of the approved in-lieu-fee program instrument.
 4. Land acquisition and initial physical and biological improvements of the mitigation site must be completed within three years of the credit sale.
 5. Projects using in-lieu-fee credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland scientist using the method consistent with the credit assessment method specified in the approved instrument for the in-lieu-fee program.
 6. Credits from an approved in-lieu-fee program may be used to compensate for impacts located within the service area specified in the approved in-lieu-fee instrument.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.080 Wetland mitigation—Ratios.

- A. Mitigation Ratios. The ratio of impacted wetland acreage to mitigation acreage shall be determined using the ratios specified in Table 24.30-3. Buffer mitigation shall occur at a 1:1 ratio of buffer impact to mitigation impact. The approval authority, in consultation with Ecology, shall establish the ratio of impacted wetland acreage to mitigation acreage on a case by case basis, based on the factors listed in subsection (B) below. The ratio of impacted wetland and buffer acreage to mitigation acreage shall not be less than 1:1, provided that buffers for created wetlands are sized consistent with TCC 24.30.035—24.30.065.
- B. The approval authority shall consider, at a minimum, the following when establishing the mitigation ratio:
 1. The category and quality of the impacted wetland(s) and buffer(s) and, if the mitigation is proposed to occur at existing wetlands off-site, the quality of any wetlands at the mitigation site;

2. The direct and indirect impacts to the affected wetlands and buffers.
3. The degree to which the proposed alteration would destroy or reduce wetland and/or buffer functions at the impacted site, including consideration of impacts to hydric soil and disruption of groundwater or surface water flows. Hydric soils are shown in Table 24.30-5 at the end of this chapter.
4. The probable success of the proposed mitigation in fully replacing all lost and diminished wetland and buffer functions based on:
 - a. The project team's demonstrated success in designing, constructing, and monitoring the proposed type of mitigation in wetlands of the same hydrogeomorphic classification (e.g., slope, riverine, or depressional);
 - b. Documentation indicating that the hydrologic and soil conditions at the mitigation site are supportive of the proposed mitigation and that the site is free of invasive plants and noxious weeds or will be made free of such plants;
 - c. If the mitigation was conducted in advance of the impact, whether it is successful in achieving the performance standards specified in the mitigation plan;
 - d. The long-term functions and values of the proposed mitigation;
 - e. The timing of the proposed mitigation relative to the proposed wetland and buffer impacts and the time frame within which the wetland and buffer functions will be fully replaced;
 - f. The quality and completeness of the applicant's proposed mitigation plan (see TCC 24.35.380); and
 - g. Other relevant factors.
- C. Category III and IV Wetlands. The maximum mitigation ratio for impacts to Category III and IV wetlands shall be 1:1 under the following circumstances:
 1. The wetland is not located in a riparian habitat area (see TCC 24.25.015—24.25.040);
 2. The wetland is not a functional part of a mosaic wetland (as described in the Wetland Rating System for Western Washington);
 3. The wetland has a score for habitat of four or fewer points under the Wetland Rating System for Western Washington;
 4. The applicant's qualified professional has evaluated the wetland and determined that it does not provide essential habitat for priority wildlife species (see TCC 24.25.065);
 5. A hydrologic analysis performed by a qualified professional demonstrates that the wetland does not provide important hydrological functions that cannot be replaced at another location (such as cleansing contaminated stormwater that would otherwise flow to a water body or preventing flooding of structures). The analysis shall be at the applicant's expense; and
 6. The impacted wetland is under four thousand square feet in size.

- D. Credit/Debit Method. To aid in the implementation of off-site mitigation, the county may develop a program which allows mitigation based on the "credit/debit" method developed by the department of ecology ("Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Final Report (March 2012), Publication #10-06-011, or as revised).

Table 24.30-3

Category and Type of Wetland	MAXIMUM MITIGATION RATIOS				
	Re-establishment or Creation	Rehabilitation	Re-establishment or Creation (R/C) and Rehabilitation (RH)	Re-establishment or Creation (R/C) and Enhancement of Water Quality or Storage Functions (E)	Enhancement of Water Quality or Storage Functions Only
	The acreage of compensating wetlands and buffers (calculated separately): The acreage of impacted wetlands and buffers (calculated separately) The ratio for buffer mitigation is 1:1.				
All Category IV	1.5:1	3:1	1:1 R/C and 1:1 RH	1:1 R/C and 2:1 E	6:1
All Category III	2:1	4:1	1:1 R/C and 2:1 RH	1:1 R/C and 4:1 E	8:1
Category II - Estuarine	12:1 or case-by-case basis, whichever is greater	4:1 Rehabilitation of an estuarine wetland only	12:1 or case-by-case basis, whichever is greater	12:1 or case-by-case basis, whichever is greater	Not allowed
All other Category II	3:1	8:1	1:1 R/C and 4:1 RH	1:1 R/C and 8:1 E	12:1
Category I - Mature/old growth forested wetlands	Not allowed	12:1	1:1 R/C and 10:1 RH	1:1 R/C and 20:1 E	Not allowed
Category I - Scoring 23	4:1	8:1	1:1 R/C and 6:1 RH	1:1 R/C and 12:1 E	16:1

points or more for functions					
Category I - Wetlands of High Conservation Value	Not allowed	6:1 Rehabilitation of a Natural Heritage site only	Not allowed	Not allowed	Not allowed
Category I - Coastal Lagoon	Not allowed	6:1 Rehabilitation of a coastal lagoon only	Not allowed	Not allowed	Not allowed
Category I - Bog	Not allowed	6:1 Rehabilitation of a bog only	Not allowed	Not allowed	Not allowed
Category I - Estuarine	12:1 or case-by-case basis, whichever is greater	6:1 Rehabilitation of an estuarine wetland only	12:1 or case-by-case basis, whichever is greater	12:1 or case-by-case basis, whichever is greater	Not allowed

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.085 Wetlands—Standards and allowable uses and activities within wetlands and associated buffers.

The land uses and activities listed in Table 24.30-4 are allowable in wetlands and associated buffers as specified in that table, subject to the standards of this title, the applicable zoning district, and the shoreline master program, as amended. Water dependent uses allowed by the shoreline master program are permitted subject to the requirements of that program and this chapter. Uses and activities inconsistent with the shoreline master program and all land uses and activities not allowed or addressed by Table 24.30-4 are prohibited within wetlands and associated buffers. The general standards listed in TCC 24.30.090 apply to all uses in Table 24.30-4. Standards provided in TCC 24.30.100—24.30.420 apply to specific uses in wetlands and their buffers, and are in addition to other requirements of this title. Table 24.30-4 contains the primary section references for each activity covered by this chapter.

Table 24.30-4. Allowable Uses in Wetlands and Buffers and Related Restrictions

	Wetland Category			
	I	II	III	IV
Asphalt batch plants	X	X	P	P
Boat launching ramps, docks, piers and floats - New, maintenance and	X	P	P	P

replacement TCC 24.30.110				
Bridge or culvert maintenance or repair TCC 24.30.140	P	P	P	P
Bridge or culvert replacement TCC 24.30.130	P	P	P	P
Bridge or culvert - New construction TCC 24.30.280	X	X	P	P
Clearing, grading, excavation, dredging or removal of soil, organic matter, or material in conjunction with a permitted activity TCC 24.30.150	P	P	P	P
Critical facilities	X	X	X	X
Destruction or alteration of wetland vegetation through shading, intentional burning, or planting of vegetation that would alter the character of the wetland that is not part of an activity approved under this chapter	X	X	X	X
Draining or flooding a wetland or other activities that result in a significant change of water temperature, quality, physical or chemical characteristics (e.g., pH), quantity, timing, or duration of the water entering the wetland or altering the wetland's water level not addressed elsewhere in this table	X	X	X	X
Drilling and testing for a required report or study, scientific sampling, research, or other site investigation using hand powered tools TCC 24.30.160	A	A	A	A
Drilling and testing for required report or study, scientific sampling, research, or other site investigation using mechanized equipment TCC 24.30.160	P	P	P	P

Emergency temporary authorization	Refer to Chapter 24.90 TCC			
Enhancement/restoration TCC 24.30.170	P	P	P	P
Existing lots vested prior to July 24, 2012 - Development	Refer to Chapter 24.50 TCC			
Fencing	Refer to Chapter 24.60 TCC			
Filling, dumping, or discharging not associated with a permitted activity	X	X	X	X
Forestry, except forest practices regulated by Chapter 76.09 RCW	X	X	X	X
Gardens for personal consumption TCC 24.30.210	A	A	A	A
Golf courses, parks, playgrounds, athletic fields, and expansive landscaped areas maintenance TCC 24.30.190	P	P	P	P
Infiltration of reclaimed water (application to the land's surface above agronomic rates)* *Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).	X	X	X	X
Intensive uses that involve use or storage of hazardous materials or would generate excessive nutrients, sediments, or pollutants on property containing wetlands and/or buffers TCC 24.30.200	P	P	A	A
Lawfully established existing uses not addressed in this table	A	A	A	A

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Mineral extraction - New and expanded operations TCC 24.30.220	X	X	P	P
Mitigation required by the county TCC 24.30.070—24.30.080	P	P	P	P
Nonconforming uses/structures - Maintenance, repair, alteration, expansion, replacement	Refer to Chapter 24.50 TCC			
On-site sewage disposal system or drain field - Maintenance, repair, and replacement TCC 24.30.240	P	P	P	P
On-site sewage disposal system or drain field within 300 feet of Category I bogs or Wetlands of High Conservation Value - New	P	P	P	P
Open space (e.g., critical area tract)	A	A	A	A
Public facility	X	X	X	X
Public project of significant importance	X	X	X	X
Recreation activities - Passive and low impact (e.g., bird watching, nonmotorized boating, bicycling, canoeing, fishing, hiking, hunting, jogging, photography, and similar activities) TCC 24.30.250	A	A	A	A
Recreation facilities, trails, and trail-related facilities - New construction TCC 24.30.250, 24.30.260	P	P	P	P
Recreation - Swimming and fishing access TCC 24.30.250, 24.30.260	P	P	P	P
Recreation facilities - Active (e.g., athletic fields, playgrounds, golf courses, parks, day camps, and camping sites) TCC 24.30.260	X	X	X	X

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Roads - Replacement and minor expansion TCC 24.30.270	P	P	P	P
Roads - Expansion TCC 24.30.280	P	P	P	P
Roads - New construction TCC 24.30.280	X	X	P	P
Signs	Refer to Chapter 24.60 TCC			
Slope stabilization or retaining wall TCC 24.30.290	P	P	P	P
Stormwater conveyance system or detention/treatment facility - Maintenance and repair TCC 24.30.315	P	P	P	P
Stormwater retention/treatment facilities, temporary sediment control ponds, and surface water conveyance systems - Construction TCC 24.30.300, 24.30.310	P	P	P	P
Stream relocation TCC 24.30.090	P	P	P	P
Subdivisions	Refer to Chapter 24.55 TCC			
Utility service lines - New installation TCC 24.30.320	P	P	P	P
Utility lines and facilities in existing rights-of-way - New installation TCC 24.30.320	P	P	P	P
Utility transmission lines, utility corridors, and other facilities outside of existing improved roads and utility corridors - New construction TCC 24.30.320	P	P	P	P
Vegetation removal - Enhancement projects TCC 24.30.380	X	P	P	P

Vegetation removal - Noxious weeds TCC 24.30.400	A	A	A	A
Vegetation removal - Invasive plants TCC 24.30.390	P	P	P	P
Vegetation removal - Hazard trees TCC 24.30.350	P	P	P	P
Vegetation removal - Aquatic weeds TCC 24.30.410	P	P	P	P
Water dependent uses not specifically addressed in this table TCC 24.30.420	X	P	P	P
Water elevation gages - Installation TCC 24.30.090	A	A	A	A
Wells TCC 24.30.330	X	P	P	P
Wildlife blind or nesting structure TCC 24.30.090	A	A	A	A

LEGEND:

A = Allowed without a Critical Area Review Permit, subject to requirements of this title

P = Permitted, subject to Critical Area Review Permit and requirements of this title

X = Prohibited

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14785, § 1, 8-28-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.090 Wetlands—General standards.

The following requirements apply, as applicable, to all uses and activities listed in Table 24.30-4.

- A. **Regulatory Differences.** Differences in regulations because of the overlap of two or more critical areas or the Shoreline Master Program for the Thurston Region, as amended, are governed by Chapter 24.01 TCC. All uses and activities subject to this section shall meet the requirements that provide the most protection to the critical areas involved. Uses and activities are prohibited if they are inconsistent with the Shoreline Master Program for the Thurston Region, or as amended.
- B. **Avoidance of Impacts to Wetlands and Associated Buffers.** All allowed uses and activities on sites containing wetlands or associated buffers shall be designed and constructed to avoid or, where that is not possible, minimize all adverse impacts to wetlands and associated buffers. Applicants must demonstrate an inability to avoid impacts as a prerequisite to the county authorizing impacts to wetlands or associated buffers. Impacts shall be minimized by sensitive site design, limiting the degree or magnitude of the use or activity, use of appropriate precautions

- and technology during construction and implementation of the permitted activity, or by taking other appropriate action.
- C. Direct Impacts to Category III and IV Wetlands. Uses and activities may directly impact Category III and IV wetlands between one thousand and four thousand square feet in size and their associated buffers with mitigation, pursuant to this chapter under the following circumstances:
1. Compliance with all of the criteria below shall be demonstrated:
 - a. The wetland is not located in a riparian habitat area (see TCC 24.25.015-040);
 - b. The wetland is not a functional part of a mosaic wetland, as described in Ecology's Wetland Rating System for Western Washington;
 - c. The wetland has a score for habitat of four or fewer points under Ecology's Wetland Rating System for Western Washington;
 - d. The applicant's qualified professional has evaluated the wetland and determined that it does not provide habitat for priority wildlife species (see TCC 24.25.065); and
 - e. A hydrologic analysis performed by the applicant's qualified professional demonstrates that the wetland does not provide important hydrological functions that cannot be replaced at another location (e.g., cleansing contaminated stormwater runoff that would otherwise flow to a water body).
 2. If there are alternative mitigations options available, such as mitigation banking or in-lieu fee (ILF) programs, then small impacts within the service area of the bank or ILF should be mitigated through the available mitigation options. If more than one option is available, then the most environmentally preferable option should be chosen for mitigation.
- D. Timing. Uses and activities authorized in wetlands and buffers with a habitat score of eight or more points under Ecology's Wetland Rating System for Western Washington shall be undertaken, constructed or installed during the time frame specified by the review authority in consultation with the WDFW and/or Ecology to minimize habitat impacts.
- E. Mitigation. All adverse impacts to wetlands and associated buffers caused by approved uses and activities shall be mitigated consistent with TCC 24.30.070—24.30.080. The county may require a fee to recover the cost of monitoring mitigation projects required pursuant to this chapter.
- F. Surety. Applicants for proposals involving, as a condition of permit approval, mitigation of wetland and/or buffer impacts shall submit to the County a surety consistent with Chapter 24.70 TCC.
- G. Access. Pedestrian access to wetlands and buffers is allowed, unless the approval authority determines that sensitive conditions or wildlife warrant access limitations. The approval authority may require that the perimeter of wetland buffer be fenced if warranted to protect wildlife, habitat or sensitive plant species documented by the DNR Natural Heritage Program, consistent with Chapter 24.60 TCC.

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- H. Temporary Field Marking. The perimeter of the wetland buffer and those areas to be disturbed pursuant to an approved permit or authorization shall be marked in the field and inspected by the approval authority prior to the commencement of permitted activities. The temporary markings shall be maintained throughout the duration of the development activity. Also see TCC 24.30.065 and 24.30.150.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.100 Reserved.

Editor's note(s)—Ord. No. 14785, § 1Editor's note(s)—, adopted Aug. 28, 2012, repealed § 24.30.100Editor's note(s)— which pertained to wetlands—agricultural activities and derived from Ord. No. 14773, § 3(Att. B), adopted July 24, 2012.

24.30.105 Biosolids application.

Biosolids application and uses shall be regulated by the Washington Department of Ecology and meet all applicable federal and state standards, including Chapter 173-308 WAC; and be consistent with a memorandum of agreement (MOA), or similar document, between Thurston County and the Washington Department of Ecology in regard to biosolids and critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.110 Wetlands—Boat launching ramps, piers, docks and floats.

Boat launching ramps, piers, docks and floats are prohibited in estuarine wetlands and Category I wetlands. They may be permitted in lakes with Category II, III and IV wetlands consistent with the Shoreline Master Program for the Thurston Region, as amended, consistent with TCC 24.25.110, and all of the following:

- A. New Docks, Floats and Piers. Floating docks, floats and piers in lakes may be permitted in Category II, III or IV wetlands and buffers where the lake fringe wetland vegetation is less than sixteen feet wide. When possible, the dock/float/pier shall be located where there is a natural gap in the wetland vegetation that does not require access maintenance. No treated wood or other hazardous material shall be used in the construction of the dock, float or pier or placed in, over, or beside (within one hundred feet) of the water.
- B. Boat Launches. Public boat launches may only be permitted in lake fringe wetlands and buffers if there is no existing public access to the lake, and if there is no alternative location outside of the wetland or buffer to accommodate the boat launch. When possible, the boat launch shall be located where there is a natural gap in wetland vegetation. Parking areas, restrooms and other facilities related to boat launches shall be located outside of the wetland and/or wetland buffer. The facility shall be designed to minimize direct, untreated stormwater runoff from the site into the wetland.
- C. Maintenance. Maintenance of legally established piers, docks, floats and boat launches is allowed provided that neither the width nor the length of the dock, pier, float, or boat launch is increased and hazardous materials are not used, except as provided for through a county approved Integrated Pest Management Plan or upon demonstration that the material does not pose a risk to water quality.

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- D. Replacement. Legally established boat launching ramps, piers, floats, and docks may be replaced provided they are not increased in length or width and the construction materials comply with the requirements for new ramps, piers, floats, and docks, as applicable. See the Shoreline Master Program, as amended, for other regulations that apply in shoreline jurisdiction.
- E. For the purposes of this section, floats shall include, but are not limited to: floating docks, mooring buoys, navigational aids and swimming floats.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.130 Wetlands—Bridge and culvert replacement.

Replacement of a bridge or culvert is allowed if necessary to conform to current standards or as part of a development approved consistent with this chapter, if:

- A. The existing bridge or culvert was lawfully established;
- B. There is not another alternative available that has less adverse impact on the wetland and buffer and any associated stream/riparian habitat area (see TCC 24.25.130);
- C. The bridge or culvert is designed to avoid or, where that is not possible, minimize impacts to the wetland and any associated stream/riparian habitat area, and it is in compliance, to the greatest extent possible, with TCC 24.30.280 below (in the case of culverts in a Type F or S stream see TCC 24.25.130);
- D. In the case of culverts in wetlands associated with a Type F or S stream, the culvert is made passable for fish in accordance with the WDFW Fish Passage Design at Road Culverts, 2003, as amended, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as amended;
- E. If the culvert involves a ditch, the ditch is not increased in width at the culvert site unless it is narrower at that point than the rest of the ditch and would otherwise impede the flow of water. In that case, it may be widened to the minimum extent the approval authority deems necessary; and
- F. Flood hazards are avoided and the proposal is consistent with Chapter 24.20 TCC and other applicable regulations.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.140 Wetlands—Bridge and culvert maintenance or repair.

- A. Maintenance and repair of bridges and culverts is permitted provided:
 1. All maintenance and repair is consistent with the Regional Road Maintenance ESA Program Guidelines, 2002, as amended;
 2. The county may allow use of other maintenance BMPs if they will protect water quality and avoid detrimental impacts on fish and priority wildlife species;
 3. Maintenance of culverts in streams used by salmonids or that convey water to a stream used by salmonids shall be limited to removal of sediment and debris from the culvert and its inlet, invert,

- and outlet and stabilization of the disturbed bank and channel immediately adjacent to the culvert and shall not involve the excavation of a new sediment trap adjacent to the inlet;
4. Such maintenance shall not involve the use of herbicides, sealants, liquid oily substances or other hazardous materials;
 5. The bridge or culvert is not located within Shoreline Master Program jurisdiction. Maintenance of a bridge or culvert within the Shoreline Master Program must be consistent with the SMP and may require a shoreline permit or review;
 6. It meets the conditions of any required hydraulic project approval from WDFW, which shall be posted in a conspicuous location on site.
- B. Clearing of culverts does not require a permit. Clearing of culverts shall be limited to removal of sediment and debris from the culvert and its inlet, invert, and outlet.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.150 Wetlands—Clearing and grading.

Clearing and grading within wetlands and buffers is only allowed to the minimum extent necessary to accommodate a use permitted pursuant to this chapter, as determined by the approval authority. Also see Chapter 14.37 TCC regarding grading requirements and Chapter 15.05 TCC regarding stormwater and erosion control.

- A. Erosion Control. Erosion control shall be done consistent with Chapter 15.05 TCC. In no case shall sediment from clearing and grading or other development activities be allowed to reach wetlands or portions of the buffer not approved for development.
- B. Fencing the Clearing Limits. The clearing limits within the wetland or buffer shall be marked with temporary fencing. Signage shall be placed on the fence indicating that the area beyond is a no entry area. If the perimeter of the area to be cleared spans more than 0.25 miles, the clearing limits may be staked and flagged rather than fenced. The fencing and stakes are subject to inspection by the approval authority prior to the commencement of permitted activities. The temporary fencing or stakes shall be maintained throughout construction and shall not be removed until permanent signs, if required pursuant to Chapter 24.60 TCC, are in place.
- C. Timing. Clearing and grading in wetlands and buffers shall only occur between May 1 and October 1. The county may temporarily suspend grading during this period if excessive rainfall might cause erosion and sedimentation that could affect a wetland or dependent fish or wildlife. The county may allow clearing and grading outside of this period if all drainage will flow away from the wetland. The approval authority may waive this requirement if the wetland will be eliminated consistent with the provisions of this chapter. If the wetland and buffer has a habitat score above twenty points or, absent a rating, the approval authority determines that the site supports breeding, nesting, or rearing of wetland dependent species, the clearing and grading shall be scheduled in compliance with TCC 24.30.090(D).
- D. Preservation of the Infiltration Capacity of the Site. The soil duff layer in the buffer shall remain undisturbed to the maximum extent practicable. The moisture-holding and infiltration capacity of the topsoil disturbed by permitted development shall be maintained in areas not approved for

impervious surfaces by minimizing soil compaction or by stripping, stockpiling, and reapplying topsoil at predevelopment levels.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.160 Wetlands—Drilling.

- A. Drilling with Human Powered, Non-mechanical, Hand-held Equipment. Gauge installation, non-mechanical site exploration and, excavation for data collection or research and accomplished by human powered hand-held equipment in accordance with state-approved sampling protocols is allowed. The associated spoils shall be contained and the disturbed area around the well shall be restored upon completion of the activity.
- B. Mechanized Drilling and Boring. Mechanical auguring under the direction of a professional engineer licensed in the State of Washington, well drilling allowed pursuant to TCC 24.30.330, and boring consistent with TCC 24.30.320 are allowed provided that the approval authority determines, in consultation with a qualified biologist and engineer, the drilling or boring is appropriate, subject to the following:
 - 1. The applicant shall identify and minimize potential impacts to all wetland functions. This shall include demonstration that the drilling or boring will not dewater the wetland;
 - 2. The access for delivering equipment to the drilling or boring site shall be aligned and constructed in a way that minimizes potential impacts to the wetland and associated buffer;
 - 3. The associated spoils shall be contained, the disturbed area around the well shall be restored upon completion of the activity; and
 - 4. Related equipment and materials shall be stored outside of the wetland and buffers except as necessary for daily operations.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.170 Wetlands—Enhancement/restoration.

The approval authority may, in consultation with Ecology and WDFW and others with expertise as warranted, approve enhancement or restoration of wetlands and buffers. (See TCC 24.30.035-065).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.180 Wetlands—Existing lawfully established uses.

Existing, lawfully established uses not specifically addressed in this chapter may continue to the extent that they are consistent with other provisions of this title. However, existing uses in wetlands and/or buffers shall employ best management practices to minimize adverse impacts on the wetlands and buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.190 Wetlands—Golf courses, parks, playgrounds, athletic fields, and expansive landscaped areas—Maintenance.

Maintenance of approved golf courses, parks, playgrounds, athletic fields, and expansive landscaped areas within the buffers of Category I wetlands, Category II bogs, Category II wetlands containing sensitive plants identified by the DNR Natural Heritage Program, and areas within one hundred feet of associated Type S or F streams or within one hundred feet of other wetlands or streams shall conform to the following:

- A. Application of Fertilizers and Other Chemicals. Fertilizer, herbicide and pesticide management practices for golf courses, parks, playgrounds, athletic fields and other landscaped areas of one acre or larger in size that encroach into the wetland buffer shall comply with the following:
 - 1. Integrated pest management practices shall be used for pest control.
 - 2. The applicant shall submit a maintenance plan for review and approval by the approval authority identifying the timing and amount of fertilizer, herbicide, or other chemicals proposed to be used on the site. The application rate for such substances shall not exceed the application guidelines on the product packaging. The approval authority may require a reduced application rate if necessary to prevent harmful effects on wetlands or dependent fish or wildlife. Applicable WSU Extension Office BMPs or other BMPs accepted by the approval authority shall be used for maintaining grassed areas and other landscaping. See critical aquifer recharge areas, TCC 24.10.140, regarding the storage of hazardous materials.
 - 3. If necessary to maintain water quality in bogs, wetlands of high conservation value, or wetlands containing sensitive plants identified by the DNR Natural Heritage Program, the approval authority may require use of stormwater treatment methods that provide a high level of stormwater cleansing, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC). The approval authority may require an evaluation of the water quality at the outflow of stormwater facilities draining to wetlands identified in this section and require remedial action as necessary to sustain the wetland/sensitive plant species.
 - 4. The approval authority may require additional protective measures as necessary to maintain water quality.
- B. No Expansion of Disturbed Area. Maintenance shall not involve expansion of the lawn, landscaping, ditch, or other disturbed area into the wetland or buffer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.200 Wetlands—Intensive uses.

New and existing intensive uses on sites containing Category I or II wetlands or associated buffers shall comply with the applicable requirements in this section. For the purposes of this section, intensive uses include those uses that store or use hazardous materials, pesticides, or herbicides in quantities regulated by TCC 24.10.140, or would generate excessive nutrients, sediments, or pollutants following initial construction that could reach the wetland and buffer or significantly alter the quantity, frequency or the timing of water reaching the wetland.

- A. Identify Risks. Applicants for new intensive uses on sites that contain a Category I or II wetland or associated buffer that have potential to degrade the wetland or buffer, as determined by the approval authority, shall submit information that identifies and evaluates the potential risks the proposed use poses for the wetland and buffer. This shall include, as applicable, whether noise,

glare, sediment, effluents, altered pH, the amount, timing, or duration of groundwater flows or altered surface hydrology would be harmful to aquatic life, birds, or other wildlife or sensitive plants listed under the DNR Natural Heritage Program.

- B. Protective Measures. The approval authority shall require measures to avoid potential adverse impacts on wetlands and buffers. (Also see Chapter 20.54 TCC, Special Uses).
 - 1. The approval authority may require the use of best management practices for new and existing intensive uses to mitigate existing and potential impacts in order to protect water quality, wetland functions, and sensitive plants listed by the DNR Natural Heritage Program. In addition, the approval authority may require applicants for new intensive uses to employ integrated pest management; install and maintain vegetative filter strips (up to fifty feet in width) at the outer edge of the wetland buffer; install fencing; direct lights away from the wetland(s); locate noisy activities away from the wetland; require buildings on the site to be located or oriented where they would have the least impact on the wetland and associated buffer (this may include orientation of a building so that the building itself acts as a shield to buffer the wetland); or employ other mitigation measures that would be effective in preventing pollutants and sediment from reaching the wetland, preventing damage to the wetland and buffer and avoiding adverse impacts on dependent wildlife.
 - 2. Harmful Pollution. If pollution or emissions from a type of proposed use (e.g., smoke stacks associated with asphalt plants, incinerators, or other industrial operations) have been demonstrated scientifically as causing damage to wetland plants, aquatic life or wildlife, the approval authority may require use of BMPs and require that the use be located on the project site where the emissions would pose the least risk of polluting Category I and II wetlands, consistent with best available science and protection of public health and safety.
- C. Expert Review. The approval authority may call upon experts, at the applicant's expense, as necessary to evaluate information submitted by the applicant.
- D. Monitoring. The approval authority may require that uses on property containing Category I wetlands be reviewed at five-year intervals to ensure that it is operating consistent with this section and any conditions of approval. The approval authority may require remedial action as warranted to protect water quality, wetlands, and associated buffers consistent with the provisions of this section.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.210 Wetlands—Landscaping and gardening—Maintenance.

Maintenance of legally existing landscaping and gardening for personal consumption is permitted within existing gardens and new gardens located within the portion of a buffer approved for residential development pursuant to this chapter (see also Chapter 24.50 TCC) subject to the standards listed in this section.

- A. Clearing or tree removal to accommodate gardens or lawns shall not be permitted in the wetland, wetland buffer, or outside of the portion of the site authorized for development pursuant to this chapter;
- B. Integrated pest management practices shall be used for pest control;

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- C. Best management practices shall be used for fertilization and weed control;
- D. The approval authority may require other protective measures as necessary to maintain water quality and protect wildlife; and
- E. For landscaping in areas larger than one acre, see TCC 24.30.190.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.220 Wetlands—Mineral extraction.

Mineral extraction may only be permitted within designated areas pursuant to the designation requirements for mineral lands (Chapter 20.30B TCC), the mineral extraction code (Chapter 17.20 TCC), and with a special use permit (Chapter 20.54 TCC). Within designated mineral lands, mineral extraction and asphalt batch plants are prohibited within Category I and II wetlands and their buffers. Mineral extraction and asphalt batch plants may be permitted in Category III and IV wetlands eligible for mitigation replacement under the provisions of TCC 24.30.090.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.230 Wetlands—On-site sewage disposal systems—New.

New on-site sewage disposal systems are subject to all of the following:

- A. **New On-Site Sewage Disposal Systems.** On-site sewage disposal systems shall be located outside wetlands and their buffers. This may require systems that provide a higher level of sewage treatment. The sewage disposal system shall be located as far from the wetland as possible and have the least adverse impact on water quality and to the wetland and buffer. Also see Article IV, the Rules and Regulations of the Thurston County Board of Health Governing Disposal of Sewage.
- B. **Separation from Bogs and Wetlands of High Conservation Value.** New on-site sewage disposal systems shall not be allowed within three hundred feet of Category I bogs, wetlands of high conservation value, or wetlands draining to a stream listed by the Washington Department of Ecology under Section 303(d) of the Clean Water Act as impaired for nutrients unless the applicant demonstrates that due to soil conditions, surficial geology, the direction of ground water flow or other relevant factors, the sewage disposal system will not adversely impact the wetland or sensitive plants identified by the Washington Department of Natural Resources Natural Heritage Program. The approval authority shall review the information submitted by the applicant and consult with the Washington Department of Ecology and others with expertise, as needed, prior to allowing the proposed sewage disposal system within three hundred feet of such wetlands. Any approved sewage disposal systems shall be located as far from the wetland as possible.
- C. For lots created prior to July 24, 2012 that cannot meet the above criteria, refer to Chapter 24.50 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.240 Wetlands—On-site sewage disposal systems—Maintenance, repair and replacement.

- A. Maintenance of approved functioning septic systems is allowed as recommended by the Thurston County Health Department.
- B. Failing Sewage Disposal systems. Failing on-site sewage disposal systems in wetland buffers shall be remedied through the method that results in the least impact to the wetland and buffer, including relocation to an alternate site. This may require methods and/or systems that provide a higher level of sewage treatment. Replacement of failing, or substandard, sewage disposal systems shall not be allowed within the wetland or wetland buffer unless there is no alternative site available outside of such areas to accommodate the facilities. Clearing of existing vegetation to remedy a failing sewage disposal system shall be minimized. The approval authority may require the applicant to demonstrate that due to physical constraints (e.g., topography, soil conditions, or the site's configuration), another configuration would not allow the development to occur without intrusion or with less intrusion in the wetland and/or buffer than the proposal.
- C. If the failing sewage disposal system must be replaced with a new on-site sewage disposal system within a buffer, it shall be located on a portion of the site that has been previously disturbed by development and as far from the wetland as possible. If a suitable disturbed area is not available to accommodate the on-site sewage system, it shall be located where it would be least harmful to the wetland and buffer, as determined by the approval authority.
- D. Replacement of sewage septic systems for new development shall be considered a new septic system under TCC 24.30.230.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.245 Wetlands—Reclaimed water.

Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act (Chapter 36.70A RCW).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.250 Wetlands—Recreation facilities, trails, and trail-related facilities—Exemptions.

The following uses are exempt from the need for a critical area permit:

- A. Construction and/or maintenance of a trail in the wetland buffer, provided that the trail is three feet or less in width, not paved and constructed with minimal pervious material such as wood chips.
- B. Passive recreation activities.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.260 Wetlands—Recreation facilities, trails, and trail-related facilities—Administrative approval.

- A. Passive Recreation. The approval authority may allow trails and trail-related, passive recreation facilities, such as, but not limited to, identification and interpretive signs, nature/wildlife viewing platforms, and fishing access within wetland buffers if it is determined that there is no alternative

outside the buffer. Trail alignment, construction, and maintenance shall adhere to all of the following requirements:

1. Location.
 - a. Trails and related facilities shall, to the extent feasible, be placed on existing levees, road grades, abandoned railroad lines, utility corridors, or other previously disturbed areas.
 - b. When trails cannot be located outside of the wetland buffers or on existing disturbed corridors within the buffers, they shall be located as far from the wetland as possible, except for access points for wildlife viewing, fishing, and recreational use authorized pursuant to this chapter.
 - c. Trails and related facilities (e.g., viewing platforms and benches) allowed in wetland buffers shall be located, aligned and constructed to minimize disturbance to wetland functions, avoid the most sensitive and productive wildlife habitat (e.g., documented breeding, nesting, and rearing areas), and minimize removal of trees, shrubs, snags, and other significant wildlife habitat.
 - d. Parking areas and other facilities associated with these trails, not specifically provided for in this section and Table 24.30-4, shall be located outside of the wetland and/or wetland buffer.
2. Stair Tower, Stairway, and Mechanical Lift. See Chapter 24.25 TCC, Fish and Wildlife Conservation Areas; and Chapter 24.15 TCC, Geologic Hazards and the Shoreline Master Program, as amended.
3. Protect Water Quality. Trails and related facilities shall incorporate measures (e.g., check dams or devices to induce sheet flow of stormwater runoff) as needed to assure that runoff from such trails/facilities does not create channels in the buffer or directly discharge to wetlands or streams.
4. Trail Width. The width of trails extending through a wetland buffer shall be minimized consistent with any applicable state or federal standards. Access paths extending through the wetland buffer to the water's edge shall be no more than three feet in width unless they are designated for public access and designed to accommodate handicapped persons. In that case, the trail and associated clearing shall be the minimum width that complies with the Americans with Disabilities Act (ADA). Clearing shall be done with hand tools unless the approval authority determines that the scale of the project necessitates mechanized equipment and its use will not harm the wetland or buffer beyond the trail corridor.
5. Impervious Surfaces. Trails shall not be paved unless they are specifically designed to be accessible by handicapped persons. Trails shall be designed for nonmotorized use, with the exception of motorized wheelchairs. The approval authority may allow regional trails on former road or railroad beds to be paved when they extend through wetland buffers. Where impervious surfaces are used, they shall be minimized consistent with applicable standards (e.g., ADA and Washington Department of Transportation standards.)

Raised boardwalks shall be used in wet areas provided that they are not treated with hazardous materials that would be harmful to wetland water quality, dependent wildlife, or sensitive wetland plants documented by the DNR Natural Heritage Program. Viewing platforms shall not be made of continuous impervious materials or treated with toxic materials that could leach into the wetland or associated buffer. The "footprint" of viewing platforms shall be as small as possible in order to minimize impacts (e.g., through the use of pin piles).

Fill shall not be allowed in wetlands.

6. Salvage Plants. Native vegetation disturbed by trail construction shall be made available for salvage.
7. Parking areas and other facilities associated with trails, not specifically provided for in this section or Table 24.30-4, shall be located outside of the wetland and/or wetland buffer.
 - B. Active Recreation. If there is no alternative location, public swimming and fishing access may be located within wetland buffers to the minimum extent necessary to accommodate the use, as determined by the approval authority. Non water-dependent active recreational uses such as playgrounds, athletic fields, campgrounds, picnic areas and related restrooms and parking areas shall be located outside of wetlands and wetland buffers.
 - C. Golf Courses. Wetlands and associated buffers within proposed new golf courses shall be protected and remain in natural condition, except as provided for by TCC 24.30.090(C). They shall not be designated as play areas of the golf course, but may be included in the course design provided all other applicable provisions of this chapter are met.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.270 Wetlands—Road replacement and minor expansion.

Existing roads and driveways constructed prior to July 24, 2012 may be repaired, replaced or widened (e.g., for safety improvements) within the footprint of the existing road bed and in portions of the right-of-way that have been previously cleared or graded as part of permitted road work, consistent with state and federal regulations, provided that all of the following criteria are met:

- A. Capacity. The capacity of the road is not increased;
- B. Minimize impact. No wetlands are filled or degraded, except as provided for in this chapter. When possible, given physical and technical constraints, road widening shall occur on the side of the road furthest from the wetland. In the event other critical areas are present, the approval authority, in consultation with others with expertise, shall determine where the proposed road expansion would have the least impact on the critical areas; and
- C. Expansion limits. Such road expansion does not extend beyond the outer edge of existing roadside ditches, or encroach into areas that are predominately covered with native vegetation. In no case shall a road expansion authorized pursuant to this section extend more than ten feet beyond the existing roadbed. Only one minor expansion shall be allowed per road segment pursuant to this section.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.30.280 Wetlands—Roads/streets, railroads, bridges and culverts—New and expanded.

Proposed road and railroad crossings of wetlands and/or associated buffers shall be avoided unless the approval authority determines that it is not possible. Proposed road or railroad crossings of wetlands and buffers and expansion of existing roads exceeding the limitations of TCC Section 24.30.270 shall follow all applicable local, state, and federal laws and the applicable requirements listed below. These requirements also apply to private access roads and driveways. (Also see TCC Section 24.25.280).

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- A. **Public Safety.** Expansion of existing roads is allowed in all wetlands and buffers to the minimum extent necessary to protect public safety, consistent with subsection (D) below. This provision does not apply to expansion for capacity. Expansion for additional capacity shall comply with the criteria for new or expanded roads.
- B. **Criteria for Allowing Crossings.** The approval authority may authorize new and expanded road crossings in wetlands and buffers as follows:
1. **Category I and II Wetlands and Buffers.** Category I and II wetlands shall not be crossed unless it is necessary to accommodate public safety improvements to an existing road. Category I and II wetlands and the inner seventy-five percent of their standard buffers may only be crossed by roads through a Reasonable Use Exception and by meeting all of the criteria in this section.
 2. **Category III—IV Wetlands and Buffers.** The most suitable type of new crossing shall be determined by the approval authority on a case-by-case basis. New and expanded roads are permitted in Category III and IV wetlands and their buffers that meet the criteria for replacement under TCC 24.30.090(C). New and expanded roads may be permitted in Category III-IV wetlands and buffers not meeting the criteria in TCC 24.30.090(C), if:
 - a. The wetland is not a functional part of a mosaic wetland (as described in Ecology's Wetland Rating System for Western Washington);
 - b. The road complies with subsection (D) below.
- C. **Access roads and driveways shall be subject to the following requirements, as well as subsection D below.**
1. **Utility Maintenance Access.** The director may allow maintenance roads for utility corridors accommodating transmission lines, pipelines, and similar major utilities when the applicant demonstrates to the director's satisfaction that the road is necessary. Maintenance roads shall not be allowed where they would adversely impact bogs, wetlands of high conservation value, or wetlands with a score for habitat of eight or more points under Ecology's Wetland Rating System for Western Washington.

If allowed, maintenance roads shall be located in the least impactful location in the outer twenty-five percent of the buffer contiguous to the utility corridor, on the side away from the wetland. To the maximum extent practicable, access for utility maintenance within wetland buffers shall be limited to access points rather than by a continuous access road extending through the buffer. The width of the maintenance road shall be minimized; in no event shall it be wider than fifteen feet.
 2. **Agricultural Access.** Refer to chapter 17.15 TCC for regulations on agricultural activities.
- D. **Road crossings, including private access roads, shall comply with all of the following requirements:**
1. **Wetlands not meeting TCC 24.30.090(C):** New and expanded roads shall not be allowed in wetlands and/or buffers unless the applicant demonstrates to the approval authority that:
 - a. It is essential (e.g., to provide access to property where no other access is physically possible or available with less impact on the wetland), or in the case of a road expansion, is needed for public safety;

- b. There is no alternative crossing location that would have less impact on wetland and buffer functions, dependent fish and wildlife, and sensitive wetland plant species documented by the DNR Natural Heritage Program. The applicant shall demonstrate that alternative access with less impact on the wetland and buffer is not physically possible, or that an easement allowing use of the alternative alignment cannot be obtained at reasonable terms as determined by the approval authority; and
 - c. It meets the requirements for existing lots in Chapter 24.50 TCC.
2. Proposed crossings that would negatively impact Category I or II wetlands or associated buffers, or wetlands in riparian habitat areas shall not be allowed unless the applicant demonstrates to the approval authority's satisfaction that the absence of the requested crossing would landlock the property and leave it with no economically viable use. The approval authority may require that crossings be accomplished with a bridge rather than a culvert if it would significantly reduce wetland impacts.
 3. If allowed pursuant to this section, new crossings and associated facilities shall:
 - a. Serve multiple properties and be designed to accommodate conduit for utility lines whenever possible. To the extent legally permissible, as part of the development approval process, the developer shall work with the county to provide for a street layout and wetland and buffer crossing location that will minimize the need for additional crossings in the future to serve surrounding property. The approval authority may waive this requirement if the additional road width required to serve multiple properties would be more detrimental to the wetland, associated buffer, or other critical area than individual access roads/driveways; and
 - b. Have the narrowest width possible, consistent with applicable county road standards and protection of public safety. Clearing to accommodate the crossing shall be minimized, consistent with the protection of the most important habitat, as determined by the approval authority.
 4. Crossings using culverts shall use superspan or oversize culverts sufficient to allow wildlife passage, consistent with Chapter 24.25 TCC.
 5. The design of crossings in wetlands associated with streams shall be consistent with the WDFW Fish Passage Design at Road Culverts, 2003, as amended, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as amended. Culverts installed on Type S and F streams shall be arch/bottomless or the equivalent that provides comparable fish protection, as determined by the approval authority in consultation with WDFW and others with expertise. Approved crossings in estuaries shall be designed to avoid interruption of tidal flows. The approval authority may require that crossings in estuaries be accomplished with a bridge rather than a culvert if it would significantly reduce habitat impacts.
 6. Bridges are preferred for spanning Category I and II wetlands.
 - E. Logging Roads. Crossings of wetlands and/or buffers within areas proposed for development that were allowed by a State Forest Practices Permit but do not meet the requirements of this chapter, and any unlawfully established roads, shall be removed. The roadbed shall be restored to a condition consistent with the surrounding undisturbed areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 2(Att. B), 12-17-2013; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.290 Wetlands—Slope stabilization.

Slope stabilization is allowed in wetland buffers, consistent with the provisions of this title, only where erosion or landsliding threatens a primary structure, including but not limited to houses, barns and places of business, utility facilities, including wells, or a roadway. Bioengineering shall be used where possible consistent with TCC 24.25.300.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.300 Wetlands—Stormwater facilities—New and expanded generally.

Stormwater facilities (e.g., detention, retention, treatment, and conveyance facilities) associated with new roads and other development shall be designed and located outside of wetlands and wetland buffers, except as otherwise provided in Section 24.30.310. Stormwater facilities shall not be allowed in the buffers of Category I and II wetlands, including bogs or wetlands of high conservation value, with the exception of stormwater conveyance pipes extending through the outer twenty-five percent of the standard buffer when there is no alternative. No discharges of stormwater shall be allowed to flow to bogs or wetlands of high conservation value.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.310 Wetlands—Stormwater facilities—New and expanded stormwater facility.

New and expanded stormwater facilities (e.g., detention, retention, treatment, and conveyance facilities) may only be allowed in the outer twenty-five percent of Category III and IV wetland buffers, or in wetlands meeting the criteria of TCC 24.30.090(C) if all of the following are met:

- A. The facilities are consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).
- B. The facilities are designed and sized to only to accommodate stormwater from:
 1. Development allowed in the buffer pursuant to this chapter; and/or
 2. Existing or new impervious surfaces within or adjacent to the buffer when there is no available alternative outside of the buffer for accommodating stormwater due to topographic or other physical constraints.
- C. Design and Location.
 1. The facilities shall be designed and located to minimize impacts on the wetland or buffer; and
 2. The approval authority may require that the proposed development be redesigned or reduced in scale to avoid or minimize impacts to the wetland or buffer; and
 3. No other location is feasible; and
 4. The location of such facilities will not degrade the functions of the wetland and buffer; and
 5. Stormwater facilities shall be limited to the twenty-five percent of the standard buffer furthest from the wetland, unless another location is necessary to accommodate stormwater from a road or bridge.

6. Stormwater facilities shall not be allowed in portions of the buffer that have been reduced in width pursuant to TCC 24.30.050.
7. Portions of buffers expanded pursuant to TCC 24.30.055 shall not be used to accommodate stormwater facilities.
- D. Treatment. All stormwater from stormwater facilities, with the exception of conveyance facilities extending through the buffer, shall be treated prior to release to a wetland buffer, consistent with the Clean Water Act, the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), and other applicable state and federal standards pertaining to water quality and treatment of stormwater. Direct stormwater outfalls to wetlands are prohibited.
- E. Avoid Channelization. Stormwater flows released to wetland buffers, with the exception of conveyance facilities extending through the buffer, shall be dispersed as sheet flow at the outer edge of the buffer to avoid channelization and allow filtration of sediment, nutrients, and pollutants and infiltration of water. The approval authority may require, if slopes exceed five percent, that obstructions or devices be installed outside of the buffer to maintain sheet flow within the buffer.
- F. Open and Vegetated. Stormwater detention, retention, and treatment ponds in wetland buffers shall be open and, to the extent possible, vegetated with native plants. Invasive vegetation shall not be planted. Stormwater conveyance facilities shall be open and vegetated with non-invasive plants unless the approval authority determines, in consultation with the applicant's qualified engineer, that design constraints or protection of public safety warrant burying the conveyance facility (e.g., underground storage is needed or the facility would span a steep slope and must be "tight lined" to avoid slope failure - see Chapter 24.15 TCC). Vegetation shall be maintained and, if necessary, planted adjacent to all open swales, channels, and ponds in order to retard erosion, filter sediments and pollutants, and (if warranted to maintain water temperatures necessary to sustain aquatic life) shade the water, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC), and the Clean Water Act.
- G. Protection of Wetland Hydrology. Wetland hydrology shall be protected through the development process, as determined by the director and pursuant to the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC). Post-development wetland hydrology shall match pre-development wetland hydrology unless the approval authority determines that changes in hydrology will not harm wetland functions. The approval authority may require a hydrologic study if it is determined that the project has potential to significantly impact a wetland. The approval authority may call upon experts as needed, at the applicant's expense, to evaluate the study.
- H. Roadside Stormwater Conveyance Facilities. Roadside stormwater conveyance facilities (e.g., swales, ditches, and pipes) may be extended through wetland buffers within rights-of-way. When possible and practical, they shall be along the side of the road furthest from the wetland. If the conveyance facility must be located along the side of the road closest to the wetland, it shall be located as close to the road/sidewalk as possible, consistent with public safety. In no case shall facilities that infiltrate stormwater be less than one hundred feet from a Category I—III wetland or fifty feet from a Category IV wetland.

Stormwater conveyance facilities shall be designed and constructed consistent with the BMPs listed in the Regional Road Maintenance ESA Program Guidelines, 2002, and, if applicable, the

Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

- I. Use of Wetlands for Stormwater Storage. Use of Category II-IV wetlands for storage of stormwater (not including stormwater facilities) is only allowed for public projects designed to halt or improve deteriorated wetland conditions, consistent with TCC 24.30.300, other applicable provisions of this chapter, and the following:
 - 1. The project shall be for the purpose of solving an existing problem, not to accommodate stormwater generated from new impervious surfaces; and
 - 2. The alteration in the timing, amount, duration and quality of stormwater reaching the wetland shall not be harmful to wetland functions, dependent aquatic life, wildlife, and native plants.
 - 3. Category I wetlands shall not be used for stormwater storage.
- J. Temporary Stormwater Management Facilities. If there is no alternative to avoid impacts to wetlands and buffers, surface water discharges may be allowed from new temporary sediment control ponds, retention/detention facilities, or other temporary surface water management structures located beyond the buffer and, if necessary, within the outer twenty-five percent of Category III and IV wetland buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.312 Wetlands—Stormwater facilities—Engineered stormwater dispersion.

The dispersion area of stormwater dispersion systems, as defined by the Thurston County DDECM, shall not be considered a stormwater facility as described in TCC 24.30.300—24.30.310, and regulated as such, unless a physical structure is incorporated within the design that impacts the standard wetland buffers. Stormwater dispersion facilities whose dispersion area includes any portion of a wetland buffer are allowed as an element of a stormwater system under the following circumstances:

- A. Dispersion of runoff from back yards of development and downspout dispersion, done in accordance with the Thurston County DDECM, is allowed at the outside edge of the wetland buffer.
- B. Sheet flow and concentrated flow dispersion, done in accordance with the Thurston County DDECM, of stormwater meeting runoff treatment requirements of the Thurston County DDECM is allowed at the outside edge of the wetland buffer.
- C. The required dispersion area, calculated under the DDECM, for sheet flow and concentrated flow dispersion from pervious and impervious surfaces, done in accordance with the Thurston County DDECM, may only include that portion of a wetland buffer outside of the minimum area considered necessary for water quality as shown in Table 24.30-1.
- D. Native vegetation in the wetland and buffer may be increased but shall not be cleared or altered to accommodate stormwater treatment.
- E. In no case shall dispersion methods be approved that may cause water quality impacts to the wetland. If water quality impacts are anticipated or observed, additional stormwater treatment methods shall be implemented.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.315 Wetlands—Stormwater facilities—Maintenance or repair.

- A. Best Management Practices. Maintenance and repair of existing stormwater retention, detention, treatment and conveyance systems is permitted in wetlands and associated buffers. County owned stormwater facilities within wetlands or buffers accommodating runoff from county roads shall be maintained consistent with the BMPs listed in the Regional Road Maintenance Program Guidelines, January 2002, as amended. Other stormwater facilities within wetland buffers shall be maintained consistent with a maintenance plan approved by the Thurston County Department of Water and Wastewater Management in accordance with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC). The approved maintenance plan shall be consistent with the wetland and buffer protection provisions of this chapter.
- B. No Expansion. Maintenance of stormwater facilities shall not result in their expansion within the wetland or buffer or result in additional or channelized discharges of water to a wetland or buffer.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.320 Wetlands—Utility lines and facilities—New.

- A. New Utility Lines and Facilities in Rights-of-Way. Installation of utility lines and facilities is permitted in existing rights-of-way within wetlands and associated buffers, consistent with applicable regulations (see Title 13, TCC) and the provisions of this chapter. When possible, utility installation shall occur on the side of the utility corridor or road furthest from the wetland. In the event that other critical areas are present, the approval authority, in consultation with others with expertise, shall determine where the proposed facilities would have the least impact on the critical areas and associated buffers. Mitigation of any impacts may be required consistent with the provisions of this title.
- B. Individual Service Lines.
 - 1. Overhead lines and cables serving an individual use are permitted in wetland buffers if:
 - a. They meet state and federal requirements;
 - b. The applicant demonstrates that an alternative location with less impact on the wetland and buffer is not available (e.g. new service line cannot be combined with a legally existing driveway, approved road crossing, or another utility's existing crossing);
 - c. The alignment has the least impact on the wetland and buffer; including minimizing vegetation removal and avoiding wildlife habitat impacts; and
 - d. Paths or roads are not needed in the wetland or buffer to install or maintain the facilities.
 - 2. Poles supporting overhead lines shall be located outside of the wetland. They shall be located outside of the buffer to the greatest extent possible. If a pole is necessary within the buffer, it shall be located as far from the wetland as possible where it is least damaging to the wetland and dependent wildlife, as determined by the approval authority. Disturbance of the buffer shall be minimized and no herbicides, pesticides or other hazardous materials shall be applied to the buffer or wetland in the course of installing the line(s) and pole(s). Poles in wetland buffers shall

- not be treated with toxic substances that could harm the wetland, buffer, dependent wildlife, or sensitive plants documented by the DNR Natural Heritage Program.
3. Buried service lines serving an individual use are permitted in the outer twenty-five percent of standard wetland buffers consistent with this chapter upon demonstration that they will not have more than a temporary adverse impact on the wetland or buffer. The site shall be restored upon completion of the installation. Buried service lines within the inner seventy-five percent of standard wetland buffers and in wetlands require a reasonable use exception.
- C. New Transmission Lines/Utility Corridors.
1. Where possible, new transmission, distribution lines and cables crossing wetlands or buffers, shall be contained within an existing roadbed, railroad bed, bridge, elevated walkway, conduit, or other disturbed area where they would have the least adverse impact on wetland and buffer functions. If the utility lines will be consolidated with, or parallel to, an existing utility crossing, they shall be located at the minimum separation distances established by the county for such uses, so long as the minimum distances so established also meet the applicable industry, state and national gas and electric safety standards.
 2. The approval authority shall not authorize a new utility corridor within a wetland and buffer unless the applicant demonstrates that there is no alternative available outside of the wetland and buffer. New transmission lines and utility corridors within Category I and II wetlands and the inner seventy-five percent of their standard buffers require a reasonable use exception. When proposing to cross wetlands and/or buffers, the applicant shall demonstrate to the approval authority's satisfaction that the crossing is essential and there is no alternative alignment or crossing method with less impact to the wetland, associated buffer and other critical areas. This shall include identification of the alternative alignments, crossing methods (including boring), their feasibility, and potential impacts.
 3. When it is necessary to cross the wetlands or buffers outside of the locations identified above, the corridor shall be in compliance with the following standards:
 - a. The corridor shall be aligned where it would have the least impact on the wetland functions and associated buffers using the least damaging alternative method.
 - b. The utility corridor within the wetland and buffer shall have the minimum width practicable, as determined by the approval authority, while still adhering to safe operating clearances and industry standards. Clearing shall be limited to the minimum necessary to locate the utility.
 - c. The utility corridor within the wetland and buffer shall provide for other necessary uses and facilities whenever possible. Conduit containing new utilities shall be sized to provide capacity for additional lines and cables in the future.
 - d. If the approval authority determines that overhead lines or lines buried in trenches would be detrimental to the wetland, buffer or dependent fish or wildlife, the proposed crossings shall, when physically feasible, be accomplished by boring beneath the wetland and buffer. Entrance and exit portals shall be located outside of the wetland and buffer, if possible. Bore pits shall be restored upon project completion.
 - i. If trenching or boring is proposed to be used to accommodate utility lines, the applicant shall evaluate its effect on the flow of groundwater sustaining the wetland. As determined by the

review authority, the applicant may be required to submit a hydrological study prepared by a geologist licensed in the State of Washington or a professional engineer licensed in the State of Washington with experience in hydrogeologic analysis to determine whether ground water flows would likely be altered to the detriment of the wetland. The approval authority may call upon technical experts as needed, at the applicant's expense, to evaluate the report.

- ii. Trenching and boring beneath a wetland and buffer shall not be required/allowed if it would interrupt the ground water connection to the wetland to the extent that the wetland or dependent wildlife would be damaged.
- e. Utility corridors shall be revegetated with appropriate native vegetation, at not less than preconstruction densities. Restoration shall occur immediately upon completion of construction or as soon thereafter as possible due to seasonal constraints or work windows established pursuant to this chapter. (See 24.30.090(D) and 24.30.150 TCC.) The applicant shall submit a performance surety consistent with Chapter 24.70 TCC to ensure that the planted vegetation survives or is replaced.
- f. Staging areas for equipment and materials shall be located outside of the wetland and buffer.
- g. Applicants shall submit a maintenance plan for approval by the county consistent with the provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.330 Wetlands—Wells—New.

- A. New individual and community wells serving approved uses shall only be allowed within the outer twenty-five percent of buffers of Category II—IV wetlands if there is not sufficient buildable area on the property outside the buffer to accommodate the well, as determined by the approval authority. Well houses are not permitted in wetlands and buffers. Also see Article III of the Rules and Regulations of the Thurston County Board of Health Governing Water Supplies, as amended, and Chapter 24.50 TCC.
- B. Access to wells approved within buffers shall be by a pervious trail no more than four feet in width unless the approval authority determines that it is necessary to provide vehicular access to a community well. In that case, the approval authority may authorize an unimproved access of minimal width (no greater than ten feet) to provide access for maintenance vehicles. Mitigation for impacts to wetland buffers may be required, including increased buffers in adjacent areas or enhanced vegetation.
- C. Maintenance of the trail/access road shall not involve the use of herbicides or other hazardous materials.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.340 Wetlands—Vegetation removal—General.

Removal of vegetation within wetlands and buffers shall be prohibited except as provided for in this chapter. Also see TCC 24.30.150.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.350 Wetlands—Vegetation removal—Tree removal.

- A. Hazard Trees. The county may authorize limbing, thinning or removal of hazard trees located in the wetland or buffer provided that compliance with all of the criteria below can be met:
1. The county may require the applicant to submit a report from a certified arborist or professional forester that documents the hazard. If such a report is required, the arborist shall recommend suitable replacement trees for any trees that are removed pursuant to this subsection.
 2. Tree cutting is limited to limbing or crown thinning in compliance with Tree Care Industry Association (formerly the National Arborist Association) pruning standards, unless the tree has a disease that would jeopardize the survival of other trees, or felling the tree is otherwise justified by the landowner/expert. Where limbing or crown thinning is not sufficient to eliminate the hazard, disease-free trees shall be pushed over into the wetland buffer. Snags shall be left in place to provide habitat unless a communicable disease or invasive pest that threatens adjacent habitat is present.
 3. All vegetation severed from the tree shall be left within the buffer unless removal is warranted due to the presence of invasive pests or potential for disease transmittal to healthy vegetation.
 4. Hazard tree removal in wetlands shall be mitigated as required by this chapter. At minimum, mitigation shall include replacement with native tree species at a ratio of 3:1 for each tree removed. The replacement trees shall have a minimum fifteen-gallon pot size, a height of four feet, and be three years old. Additional mitigation may be required based on site conditions, habitat type and wetland functions as determined by the resource stewardship director. The applicant may be required to submit reports for maintenance and monitoring of planted vegetation at the discretion of the director.
- B. Forest Practices. Harvesting of trees under an approved Class II or Class III forest practices permit is not subject to this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.360 Wetlands—Vegetation Removal—Harvesting.

The approval authority, in consultation with the Washington Departments of Natural Resources (Natural Heritage Program), Fish and Wildlife, and Ecology or United States Fish and Wildlife Service staff, may allow harvesting of plants and plant materials provided compliance with all of the criteria below can be met:

- A. The harvest shall not comprise more than twenty percent of any single plant.
- B. The species harvested must comprise forty percent or more of the vegetation in the wetland or buffer area.
- C. Harvested material shall not consist of any threatened or endangered species pursuant to Chapter 24.25 TCC.
- D. No root material shall be harvested, except as provided for TCC 24.30.370.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.370 Wetlands—Vegetation removal—Salvaging.

Salvage of whole plants is allowed in wetlands and buffers approved for impacts from development.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.380 Wetlands—Vegetation removal—Other allowed vegetation removal.

Removal of vegetation is allowed as part of an approved habitat restoration or enhancement project in the wetland or associated buffer. Other vegetation may be removed from wetlands and associated buffers provided compliance with all of the criteria below can be met:

- A. Removal of vegetation shall be the minimum extent necessary for surveying or testing purposes.
- B. The approval authority may allow trimming of vegetation to provide a view corridor in the outer (furthest from the wetland) twenty-five percent of the standard buffer of Category III and IV wetlands with a wildlife habitat rating of four points or less under the Wetland Rating System for Western Washington, provided that trimming is limited to view corridors with maximum widths of twenty feet. Trimming shall be limited to limbing or crown thinning in compliance with Tree Care Industry Association (formerly the National Arborist Association) pruning standards. No more than thirty percent of the live crown of a tree may be removed in any three-year period. Trimming shall not include felling, topping, or removal of trees or jeopardize the tree's survival. Snags shall be left in place except as provided for in Section 24.30.350A.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 15291, § 1(Att. A), 5-10-2016)

24.30.390 Wetlands—Vegetation removal—Invasive species.

When removing invasive species, removal of native vegetation within wetlands and buffers shall be prohibited, and shall be in compliance with all of the criteria below. Also see TCC 24.30.150.

- A. Plant removal shall be performed such that it will not cause significant damage to untargeted vegetation, impair water quality or any wetland or buffer function.
- B. Activity that would expose more than one hundred square feet of soil within one hundred feet of the wetland shall require submission of a plan for county approval that identifies the proposed plant removal and site restoration consistent with the provisions of this section. The method of vegetation removal must be approved in writing by the Thurston County Resource Stewardship Department, consistent with this section and all applicable county, state, and federal regulations prior to initiation of any such vegetation removal.
- C. Hand tools shall be used for plant removal unless the approval authority determines that the scale of the project warrants use of small scale equipment (e.g., riding mowers or light mechanical cultivating equipment) or other method (i.e., application of herbicide with a state and federally approved formulation by a licensed applicator in accordance with the safe application practices on the label) and use of the equipment/method does not pose a significant risk to untargeted areas, habitat functions, or water quality.
- D. Erosion shall be effectively controlled and exposed areas shall be stabilized immediately following plant removal consistent with the Chapter 15.05 TCC. If the area of exposed soil exceeds one hundred square feet and lies within one hundred feet of a wetland, it shall be planted

with appropriate native plants at a density that will provide complete ground cover at maturity, unless the approval authority determines that the area will revegetate naturally without jeopardizing water quality or wetland and buffer functions.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.400 Wetlands—Vegetation removal—Noxious weeds.

- A. Removal of noxious weeds, as defined by Chapter 16-750 WAC, under the direction of the Thurston County Noxious Weed Control Agency, is permitted in wetlands and associated buffers consistent with a county approved integrated pest management plan, applicable county and state regulations, and TCC 24.30.390(A), (C) and (D). Prior to requiring removal of noxious weeds within a Category I wetland or associated buffer, the noxious weed control staff shall consult with the planning and environmental division of the resource stewardship department to evaluate alternative methods of weed removal and the associated risks to the wetland and buffer.
- B. When removing noxious weeds, removal of native vegetation within wetlands and buffers shall be prohibited. Also see TCC 24.30.150.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.410 Wetlands—Vegetation removal—Aquatic weed removal.

Aquatic weed removal consistent with an integrated pest management plan is only allowed subject to applicable local and state regulations (e.g., HPA and NPDES permits).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.30.420 Wetlands—Water dependent uses.

When there is no practicable alternative outside of the wetland and associated buffer, the approval authority may allow alteration of wetlands and buffers subject to and defined by the Shoreline Master Program for the Thurston Region, as amended, to the minimum extent necessary to accommodate water dependent structures and uses. Such uses shall be designed and installed to minimize impacts on wetlands and buffers consistent with the provisions of this chapter.

Table 24.30-5. Hydric Soils of Thurston County

MAP SYMBOL	SOIL UNIT NAME
14	Bellingham silty clay loam
29	Dupont muck
36	Everson clay loam
41	Godfrey silty clay loam
45	Hydraquents, Tidal
65	McKenna gravelly silt loam, 0 to 5% slopes

69	Mukilteo muck
70	Mukilteo muck, drained
75	Norma fine sandy loam
76	Norma silt loam
88	Puget silt loam
95	Riverwash
100	Scamman silty clay loam, 0 to 5% slopes
101	Scamman silty clay loam, 5 to 20% slopes
104	Semiahmoo muck
105	Shalcar muck
106	Shalcar variant muck
116	Tacoma silt loam
120	Tisch silt loam

Source: Soil Survey of Thurston County, Washington
(Ord. No. 14773, § 3(Att. B), 7-24-2012)

Special Reports (Chapter 24.35 TCC)

24.35.010 Purpose—Special reports.

The purpose of this chapter is to establish provisions governing the submittal requirements of special reports associated with development that impacts critical areas and/or their associated buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.012 Critical area report determination processes.

The sequence of review and determining whether critical area reports shall be required is described in TCC 24.05.027 and through the specific chapters of Title 24.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.015 Mitigation sequencing.

All proposals that require submittal of a mitigation plan due to impacts to a critical area or buffer shall employ the following sequence in order to reduce those impacts. Redesign, reconfiguration or relocation of a proposal to avoid impacts shall be preferable to submittal of a mitigation proposal. Mitigation actions associated with development proposals impacting critical areas shall adhere to the following mitigation sequence:

- A. Avoiding the impact altogether by not taking a certain action or parts of an action;
- B. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
- C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- D. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
- E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or
- F. Monitoring the impact and taking appropriate corrective measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.017 Monitoring and contingency requirements.

- A. A contingency plan shall be established for compensation in the event the mitigation project is inadequate or fails. The contingency plan is to provide specific corrective measures for such common mitigation plan failings as plant mortality, undesirable vegetation, vandalism, damage due to wildlife grazing, grading errors, damage caused by erosion, settling, or other geomorphological processes, and hydro-regime problems. A financial guarantee shall be provided per Chapter 24.70 TCC. Financial guarantees shall be based on an estimate submitted to the County detailing the work to be accomplished and the current cost.
- B. Requirements of monitoring programs are as follows:
 - 1. Scientific procedures are to be used for establishing the success or failure of the project.
 - 2. Monitoring reports prepared by a fish or wildlife biologist are to be submitted for department review. Monitoring reports generally will include discussions of wildlife utilization of the site, habitat structure establishment, water quality, and existing or potential degradation.
 - 3. Monitoring reports for wetland mitigation projects shall be prepared per the Monitoring Report Checklist in Appendix M of Wetland Mitigation in Washington State, Part 2: Developing Mitigation Plans (Version 1, Publication #06-06-011b, March 2006, as amended).
 - 4. For critical aquifer recharge areas, the approval authority may require water quality or quantity monitoring as a condition of approval and to document compliance with permit conditions. This may include establishment of baseline conditions for water quality and quantity. Said monitoring shall be performed by a qualified individual or entity, approved by the county. Monitoring may also be delegated to an appropriate county department and paid for by the applicant. The approval

authority shall periodically review the need for continued monitoring and shall authorize termination of the monitoring if it is determined that it is no longer warranted.

5. Monitoring may include, but is not limited to:
 - a. Evaluation of the project's status relative to the project's performance standards and goals in the approved mitigation plan.
 - b. Evaluation of vegetation plots to track changes in plant species composition and density over time;
 - c. Using photo stations to evaluate vegetation community response;
 - d. Sampling surface and subsurface waters to determine pollutant loading and changes from the natural variability of background conditions (e.g., pH, nutrients, heavy metals);
 - e. Measuring base flow rates and stormwater runoff to model and evaluate water quality predictions, if appropriate;
 - f. Measuring sedimentation rates, if applicable;
 - g. Wildlife utilization of the site. If warranted, sampling fish and wildlife populations may be required to determine habitat utilization, species abundance and diversity;
 - h. Existing degradation; and
 - i. Hydric soil characteristics monitored through the use of one or a combination of the following: Munsell soil color, pH, particle size, redox potential, organic content, microbial activity, time and duration of saturation or ponding, and alkalinity. The duration and extent of water on site can be approximated by periodic field visits to verify depth and extent of hydrology. Alternatively, continuous data loggers could be installed that monitor the hydroperiod.
6. Monitoring reports for mitigation projects specific to vegetative restoration or enhancement shall comply with the following:
 - a. Monitor for a period of time appropriate to the nature of the project (single-family versus commercial) and the complexity of the mitigation project. The majority of monitoring programs will last a minimum of five years (ten years for forested and scrub-shrub communities) and are to be submitted according to the following schedule:
 - i. At completion of construction of mitigation project (as-built report);
 - ii. Thirty days after completion;
 - iii. Early in the first growing season after construction;
 - iv. End of the first growing season after construction;
 - v. Twice the second year; and
 - vi. Once in years 3, 5, 7 and 10.

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- b. Deviation from this schedule may be allowed based upon project specific conditions.
- 7. Monitoring reports for mitigation projects whose goals are other than vegetative restoration or enhancement are to be submitted to the department for a period of time, and upon a schedule, appropriate for the species or habitat of concern. The specifics of such mitigation projects will be determined on a project by project basis.
- C. As a condition of approval for permits requiring monitoring, the county shall be provided the ability to enter property to verify monitoring reports and compliance with conditions of permit approval.
- D. Failures in the mitigation project shall be corrected as required by the county, such as, but not limited to:
 - 1. Replace dead or undesirable vegetation with appropriate plantings.
 - 2. Repair damage caused by erosion, settling, or other geomorphological processes.
 - 3. If necessary, redesign the mitigation project and implement the new design.
- E. Correction procedures shall be approved by the fish or wildlife biologist and the director or designee.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.020 Third party review.

Any submission made to the county as part of an application subject to this title may be subject to third party review, as outlined in TCC 24.05.022.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.022 General qualifications for report preparers.

Special reports required by this chapter shall be prepared by professionals licensed, certified, or otherwise qualified to collect and analyze pertinent data and present a determination regarding the nature of a given critical area, its habitat value, threats posed to the critical area functions, threats posed to public safety, slope stability, or other relevant information, as determined by the director. Criteria for determining qualification are also found in specific sections of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.025 Required reports.

Critical area review permits under Chapter 24.40 TCC, where the underlying permit application requires a Type III review process (See Chapter 20.60 TCC) within a CARA, shall provide the following special reports:

- A. Drainage and erosion control plan; and

- B. Hydrogeological report. In addition to the specific requirements for individual uses in Chapter 24.10 TCC, the approval authority may require a hydrogeological report as part of other applications if:
1. There is insufficient information regarding ground water to perform an adequate review to assure aquifer protection;
 2. The project is likely to possess, store, use, transport, or dispose of hazardous materials; or
 3. There is evidence of ground water degradation, or known ground water contamination, in the vicinity of the proposed project and the project would influence or be influenced by the water quality degradation. For example, where the identified quality degradation may render the proposed water source non-potable, or when the proposed project may add to existing quality degradation in excess of ten percent of the Assimilative Capacity standard (see TCC 24.10.030).
- C. The director may waive the hydrogeological report requirement or limit the scope of the report if the nature of the project and its impacts are generally known, or the impacts of the project have been mitigated by source control strategies.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.030 Special reports requirements.

Special report required in critical aquifer recharge areas shall include the following when relevant.

- A. Drainage and Erosion Control Plan. This plan shall address methods to minimize erosion and contain soil within the project boundaries during construction and to provide for stormwater management from the site and its surroundings during and after construction, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).
- B. Hydrogeological Report.
1. The hydrogeological report shall identify the proposed development plan and the risks associated with on-site septic systems and other on-site activities which may degrade the ground water beneath or down gradient from the site.
 2. The hydrogeological report shall be prepared by a licensed professional engineer or hydrogeologist, licensed in the State of Washington, qualified to analyze geological and hydrological information and ground water systems.
 3. The approval authority may waive the requirements of this section when there is persuasive evidence and reason that the issue(s) pertinent in a specific case, either site conditions or project mitigations, have been or can be adequately addressed in the technical report and supporting documentation.
 4. The hydrogeological report shall contain:
 - a. A description of the soil, geological and hydrological characteristics of the area under permit application consideration, including the relationships between ground water and surface water

- including stream flows and wetlands; the character of the unsaturated zone, the depth to groundwater and, if reasonably possible, direction of groundwater flow.
- b. A site plan depicting the location of all existing and proposed structures; the boundaries of the property proposed to be developed; adjoining roads and site access; topography with two-foot contours; the hydrogeologic context including water bodies, wetlands, springs, seeps, wells, ditches, culverts, stormwater facilities and other relevant features; and the location of all existing and proposed public and on-site utility structures and lines, including on-site sewage systems, sewer lines and water lines.
 - c. A discussion of how the characteristics described in subparagraph (a) above will influence drainage and the movement of water and contaminants in the ground water, and a discussion of how the proposed project will influence surface water including instream flows and wetlands.
 - d. A description of conditions prior to project development, which may include baseline conditions for water quality and quantity.
 - e. A description of conditions as they are likely to exist after complete development of the proposed project, and their impact on ground water quality and quantity.
 - f. If determined to be necessary to evaluate the proposed activity or use, the approval authority may require the following information regarding the hydrogeologic characteristics of the site and the predicted behavior of contaminants: background water quality compiled over at least a one-year period, contaminant transport modeling based on potential releases to ground water, and modeling to determine the effects of ground water withdrawals.
 - g. A list of those recommendations to be used to mitigate any of these potential ground water impacts. This shall include the effects of sewage disposal, lawn and yard activities, agricultural and animal husbandry, household chemical use, stormwater impacts and any other impacts reasonably associated with the project type described.
 - h. The post development description shall include the effects of the activities likely to occur as a result of the complete development and use of the project at final equilibrium.
5. Review and evaluation of the report may be delegated to other county departments and to qualified private consultants, at the applicant's expense, under the direction of the approval authority.
- C. Pier Foundations in Critical Aquifer Recharge Areas. The applicant shall submit the following information, certified by a qualified engineer, for foundations subject to review in accordance with TCC 24.10.170.
 1. The proposed depth of the foundation below the ground surface.
 2. The depth to the aquifer that any well within two hundred feet of the proposed foundation draws upon.
 3. If the aquifer drawn upon is less than fifty feet below the bottom of the hole proposed to be excavated to accommodate the foundation, then the applicant shall submit the following additional information.

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- a. The distance from the proposed foundation to the subject wells.
- b. The foundation design and materials, including the concrete mix and the specific components of any additives, and the composition of any sealer/slurry proposed to be employed in construction of the foundation.
- c. Proposed construction techniques, such as use of a casing to mitigate potential groundwater contamination.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.040 Performance monitoring and reporting.

Monitoring requirements are established in TCC 24.35.017.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.045 Spill plan—Hazardous materials management plan.

Spill plans and hazardous materials management plans shall include, at a minimum, the following:

- A. A list of the locations, amounts, and types of hazardous materials/waste, stored on site;
- B. A description of inspection procedures for hazardous material storage areas and containers and the minimum inspection intervals. An inspection logbook shall be maintained for periodic review by the county;
- C. Provision of an appropriate spill kit with adequate spill supplies and protective clothing;
- D. Detailed spill cleanup and emergency response procedures identifying how the applicant will satisfy the requirements of the dangerous waste regulations, Chapter 173-303 WAC, in the event that hazardous material is released into the ground, ground water, or surface water;
- E. Procedures to report spills immediately to the department of ecology and the environmental health division of the Thurston County Public Health and Social Services Department, in that order;
- F. A list of emergency phone numbers (e.g., the local fire district and ambulance);
- G. Procedures to ensure that all employees with access to locations where hazardous material are used or stored receive adequate spill training. A training logbook shall be maintained for periodic review by the county;
- H. Documentation of proper disposal, recycling, or on-site treatment of hazardous waste; and
- I. Additional information the approval authority determines to be necessary to demonstrate that the use or activity will not have an adverse impact on ground water quality.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.050 Geologic hazards—Types of special reports.

The following special reporting requirements may apply to development proposals which contain a use or activity subject to Table 24.15-1 within a geologic hazard area and/or the associated buffer, as determined by the approval authority.

- A. Erosion Hazard Areas.
 - 1. Geological assessment.
 - 2. Drainage and erosion control plan.
 - 3. Grading plan.
 - 4. Revegetation plan.
- B. Landslide Hazard Areas and Marine Bluff Hazard Areas.
 - 1. Geological assessment.
 - 2. Drainage and erosion control plan.
 - 3. Grading plan.
 - 4. Revegetation plan.
 - 5. Structural mitigation plan.
- C. Mine Hazard Areas.
 - 1. Geological assessment.
- D. Seismic Hazard Areas.
 - 1. Geological assessment.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.060 Geologic hazards—Waiver of special reports.

The director may waive the requirement for, or limit the scope of, any special reports upon a written finding in the geological assessment that the potential for landslide activity is low and that the proposed development would not cause significant adverse impacts, as determined by the director, or that there is adequate geological information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.070 Geologic hazards—Minimum standards for special reports—Drainage and erosion control plan.

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The drainage and erosion control plan shall comply with the requirements of the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.080 Geologic hazards—Minimum standards for special reports—Grading plan.

- A. The grading plan shall identify the proposed development project including the movement of material on-site along with the proposed and existing contours of the site and cross sections thereof.
- B. The grading plan shall be prepared by a registered design professional, as defined in TCC 14.37.020.
- C. The grading plan shall comply with the standards in Chapter 14.37 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.090 Geologic hazards—Minimum standards for special reports—Revegetation plan.

- A. The revegetation plan shall include a detailed site plan drawn to scale showing the placement of all plants to be used, the quantities of each species, distance on-center for planting, list of all species to be used with both botanical and common names, size of the nursery stock to be used, and any details for planting procedures including timing and maintenance. Once the revegetation plan has been installed, an as-built shall be submitted to the County that shows the results of the installation including any necessary modifications and reasons for those modifications.
- B. The revegetation plan shall be prepared by a person who is knowledgeable about regional soil and climatic conditions as well as native plant materials suitable for installation on or near an erosion, landslide, or marine bluff hazard area or associated buffers.
- C. The revegetation plan shall use a predominance of native, non invasive species, appropriate to the area. It shall document why the species chosen for the site will be appropriate, will function in the capacity as designed (i.e., soil and bluff stabilization, or runoff distribution), and will be likely to survive in the location with a minimum of maintenance once established.
- D. The approval authority may waive the requirement for the revegetation plan if it can be demonstrated that disturbance of the site is so minor that it will regenerate on its own within a reasonable time or that the size of the project does not necessitate such plan.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.100 Geologic hazards—Minimum standards for special reports—Structural mitigation plan.

- A. The structural mitigation plan shall be prepared by a registered design professional, as defined in TCC 14.37, with demonstrated geotechnical experience, geologist, or engineering geologist licensed to practice in the State of Washington.
- B. The owner or agent shall provide for review, a minimum of two copies of a structural mitigation plan, including but not limited to, the following information:
 - 1. Project Information.

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- a. Permit and/or application number;
- b. Tax parcel number;
- c. Plan number or other identification of project.
2. Registered Design Professional Information.
 - a. Name, mailing address, and phone number of registered design professional;
 - b. Type of registration of the design professional;
 - c. Date the design was completed.
3. Project Site Plan Information.
 - a. Existing and proposed topographic contours at two-foot intervals;
 - b. Erosion control and drainage measures for the construction period and final disposition of the parcel;
 - c. Proposed slope stabilization methods consistent with Chapter 24.15 TCC, if necessary.
4. Soils Investigation Report. The structural mitigation plan shall include a soils investigation report conforming to the provisions of the Thurston County Building Codes, as amended. The report shall include, but not be limited to, the following information:
 - a. A plot showing the location of test borings and/or excavations.
 - b. A complete record of the soil samples.
 - c. A record of the slope profile before and after construction drawn at an identifiable scale.
 - d. Elevation of the water table, if encountered.
 - e. Recommendations for foundation type and design criteria, including but not limited to: bearing capacity of natural or compacted soil; provisions to mitigate the effects of expansive soils; mitigation of the effects of liquefaction, differential settlement and varying soil strengths; and the effects of adjacent loads.
 - f. Expected total and differential settlement.
 - g. Pile and pier foundation information in accordance with TC building codes, as amended.
 - h. Special design and construction provisions for foundations located in adverse soils, as necessary.
 - i. Compacted fill material properties and testing in accordance with the TC building codes as amended.
5. Construction Drawings. Drawings submitted for review shall be annotated to call out and identify location of details, sections, and other specifics of the plan.

6. Details and Section Drawings. The registered design professional shall provide all details and sections needed to communicate the specific requirements of the structural mitigation plan to reviewers, inspectors, and field personnel responsible for installation of construction. All details and sections shall be clearly labeled.
7. Materials and Specifications. The registered design professional shall identify and provide specifications for all construction materials to be used.
8. Method of Approval for Changes to Structural Mitigation Plan. The registered design professional shall provide details of steps taken to review, submit, and approve changes.
9. Special Inspections and Structural Observation Programs. When applicable, the building official may require a P.E., architect, or other qualified person to perform specific special inspections or structural observation programs.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.120 Reserved.

Editor's note(s)—Ord. No. 14961, § 5(Att. E), adopted Dec. 17, 2013, repealed § 24.35.120 Editor's note(s)—, which pertained to geologic hazards, minimum standards for special reports, and flood elevation certificate, and derived from Ord. No. 14773, § 3(Att. B), adopted July 24, 2012.

24.35.130 Geologic hazards—Minimum standards for special reports—Geologic assessment.

A geologic assessment, as outlined below, shall be required when the resource stewardship department's mapping, source documents, and/or field investigations indicate a proposed activity is located within or adjacent to an erosion, landslide, marine bluff, seismic, or mine hazard area.

- A. A geological assessment shall be submitted to the review authority for review and approval together with the appropriate permit application and associated fees.
- B. A geological assessment shall include a field investigation and may include review of available geologic hazard maps, historical air photo analysis, public records, and any other pertinent documentation, as required by the county.
- C. A geological assessment shall be prepared, signed, sealed, and dated by an appropriately licensed geotechnical professional, as defined in Chapter 24.03 TCC and as applicable to the specific geologic hazard identified on or near the project site.
- D. A geological assessment shall be submitted in the form of a geotechnical letter, geotechnical evaluation, or geotechnical report, as determined in this chapter.
- E. After reviewing the geological assessment submitted by the applicant, the approval authority may request additional information or studies specific to the conditions of the development proposal site.
- F. A geological assessment for a specific site may be valid for a period of up to five years when the proposed land use activity and surrounding site conditions are unchanged. If any environmental surface or subsurface conditions associated with the site change during that five-year period, the applicant may be required to submit an amendment to the geological assessment.

- G. When a development has the potential to impact slope stability on, below, or above adjacent property, particularly where public health and safety are at risk, the geotechnical studies presented must comply with the guidelines defined as standard of practice under the Washington State Geology Licensing program, as presented in the Washington State Department of Licensing "Guidelines for Preparing Engineering Geology Report in Washington," as amended. Such reports must include an assessment of each of the following parameters:
1. Slope gradient and existing slope stability conditions.
 2. Stratigraphy (affecting infiltration rates, transmissivity, and groundwater flow paths).
 3. Precipitation patterns (regional, seasonal and storm-related).
 4. Land cover (vegetation type and density as it affects water available for infiltration — evapotranspiration and interception loss).
 5. Previous and proposed land use (affecting percent infiltration versus run-off).
 6. Specifically, a geologic assessment shall include analysis that addresses the following questions:
 - a. How will the project affect the stability of the slope?
 - b. What are the expected effects on groundwater levels during different seasons from development?
 - c. What specific mitigation actions will be used to minimize or avoid effects of the development?
 - d. What is the geologic/hydrologic basis for any proposed structural stabilization?
 - e. Do alternatives exist that would better protect the functions and values of the critical area?
- H. All geological assessments submitted under this chapter shall include the following information:
1. The dates when the geological assessment was conducted and when the assessment letter was prepared.
 2. The parcel number(s) of the subject property.
 3. Site address of the subject property.
 4. The name, mailing address, and telephone number of the geotechnical professional who prepared the letter.
 5. The name, mailing address, and telephone number of the property owner.
 6. A description of the proposed project and the area to be developed.
 7. A map showing the property lines for the site, existing two-foot contours of the existing topography, and the location of any existing structures, utilities, wells, stormwater or septic systems, or other development.

8. A site plan delineating the boundaries of the proposed development site and the location of all areas of the site subject to the potential geologic hazard, and if applicable, limits of associated buffers.
9. If a site plan is required pursuant to this title, the site plan shall be prepared at a scale of one inch equals fifty feet (or other scale deemed appropriate by the department). The department may require that the site plan information listed below be based on a field survey by a licensed surveyor. The site plan shall include:
 - a. The limits/location of the geologic hazard area(s), including adjacent lots if necessary.
 - b. The location of any existing structures, utilities, on-site septic systems, wells, and stormwater management facilities.
 - c. The location of any proposed structures, utilities, on-site septic systems, wells, and stormwater management facilities.
 - d. The full geographical limits of the proposed project area (area to be developed).
 - e. Dimension of the closest distance between the identified geologic hazard area boundary (and associated buffers, if applicable) and the proposed project area.
 - f. Existing contours on the site at two-foot intervals.
 - g. Property lines for the site.
 - h. North arrow and scale.
10. Detailed discussion of the technical information, best available science and site-specific data on which the determination of hazard was based, including background assumptions. References to any sources of best available science used shall be included.
11. A paragraph that states the following:
 - a. A statement that the assessment was prepared under the responsible charge of (individual's name) and that the individual meets the qualifications defined for a geotechnical professional in Chapter 24.03 TCC to prepare a geological assessment for the specific type of geologic hazard.
 - b. A statement that a(n) (erosion, landslide, marine bluff, mine, or seismic) hazard geological assessment, including a field investigation, and research of available historic records, has been completed by the geotechnical professional on the subject site.
 - c. A statement that the scope of services completed for this project is adequate to meet the requirements of this title.
 - d. For geotechnical letters: A statement that it does not appear that a hazard area exists within the following areas adjacent to a development proposal.
 - i. Within two hundred feet for erosion hazards areas;
 - ii. Within three hundred feet for landslide, marine bluff, or mine hazard areas;

- iii. Within the development proposal site for seismic hazard areas.
- e. For geotechnical evaluations: A statement that it does not appear that a(n) (erosion, landslide, marine bluff, mine, or seismic) hazard area exists within 200 feet for erosion hazards areas; three hundred feet for landslide, marine bluff, or mine hazard areas; within the proposed project area for seismic hazard areas of the proposed project area.
- 12. All geological assessments proposing infiltration or dispersion of stormwater that are submitted under this chapter in relation to landslide and marine bluff hazards shall include the following additional information regarding the applicant's proposed solutions for handling stormwater:
 - a. An estimate of the amount and percentage increase of added stormwater that will be infiltrated as a result of the proposed development, both during peak storm events and month-by-month over an average one-year period.
 - b. Detailed discussion of the science, site-specific data on which the estimate of infiltrated stormwater was based, including background assumptions regarding groundwater incorporated into analysis.
 - c. A professional estimate of where the added water is expected to flow under the ground, and where and in what volumes it will daylight on the slope or bluff during peak storm events.
 - d. Detailed discussion of the science and site-specific data on which the hypothesized stormwater flows were based, including background assumptions incorporated into the analysis.
 - e. An analysis of whether the added stormwater daylighting the slope during peak storm events will increase the frequency, duration and severity of landslide events on the slope.
 - f. Detailed discussion of the science and site-specific data on which the estimate of the landslide risk was made, including background assumptions incorporated into the analysis.
 - g. A discussion of the alternative approaches to handling stormwater which were considered in the development process and discussion of why the proposed approach was chosen.
 - h. A discussion of the long-term impacts of stormwater and other sources of added water due to development (e.g. on-site sewage treatment systems and underground springs altered by development).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.140 Geologic hazards—Minimum standards for special reports—Third party review.

The approval authority may require a third party review of the geological assessment by a geotechnical professional at the applicant's expense.

- A. If a third party review is required, the approval authority will notify the applicant in writing of an intent to retain a qualified third-party to review the information provided by the applicant.
- B. At the time the applicant is notified of the requirement for third party review, the approval authority shall also provide written notice that the geotechnical report is available for review to property owners within one thousand feet of the project site. The approval authority shall accept

public comment during a thirty-day period and shall forward the comments to the third party reviewer.

- C. **Landslide and Marine Bluff Hazard Areas.** The approval authority shall require third party review, at the applicant's expense, to assess the adequacy of the proposal and the cumulative impacts of stormwater infiltration on slope stability. This is accomplished by evaluating the applicant's proposal as well as previous geotechnical reports prepared for properties within one thousand feet of the project site.

The approval authority may waive this requirement if the applicant demonstrates that the development proposal site is hydrologically disconnected to the landslide or marine bluff hazard area.

- D. **Third Party Review—Report Requirements.** Third party review reports submitted under this section shall include the following information:
1. An analysis of the adequacy of methods used and the uncertainty and risk involved in the estimates.
 2. Review and comment on the applicant's proposed methods for handling stormwater.
 3. In addition to paragraphs (1) and (2) above, third party review reports for landslide and marine bluff hazard areas shall include a thorough discussion of the cumulative stormwater impacts on the ground water flowing into the proposed development and the geologic hazard area from prior developments built or proposed to be built within one thousand feet of the project site.
 4. In light of these analyses, the third party reviewer shall answer the following question:
 - a. For landslide and marine bluff hazard areas: "In your professional opinion, does this development, as proposed, along with adjacent development within one thousand feet, create a probable significant adverse impact from increased geological hazard risk." If the answer is yes, the approval authority shall deny approval of the project, as proposed.
 - b. For seismic, volcanic, mine, or erosion hazard areas: "In your professional opinion, does the development, as proposed, create a probable significant adverse impact from increased geological hazard risk?" If the answer is yes, the approval authority will consider denial of the project, as proposed, based on the third party review findings.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.150 Geologic hazards—Additional requirements for geologic assessments in erosion hazard areas.

In addition to the requirements in TCC 24.35.130, the following shall be required for geologic assessments in erosion hazard areas, as specified:

- A. The geological assessment shall be prepared by a geotechnical professional, such as an engineering geologist or geotechnical engineer, who is experienced and licensed to assess erosion hazard areas.

- B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no erosion hazard area exists within two hundred feet of the development proposal site. A geotechnical letter shall, at a minimum, include the following:
1. The letter shall be labeled identifying the submittal as an "erosion hazard geotechnical letter" and shall include all mandatory elements listed in TCC 24.35.130.
- C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that an erosion hazard area exists, but is located more than two hundred feet away from the proposed project area, and in their opinion, will not impact the subject site. A geotechnical evaluation shall, at a minimum, include the following:
1. The cover letter for the document shall clearly identify the submittal as an "erosion hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.
 2. A site plan, as defined in TCC 24.35.130(H)(9).
- D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that 1) an erosion hazard area exists within two hundred feet of the proposed project area, or 2) an erosion hazard area is located more than two hundred feet away from the proposed project area, but in their opinion, will impact the subject site. A geotechnical report shall, at a minimum, include the following:
1. The cover letter for the document shall clearly identify the submittal as an "erosion hazard geotechnical report" and shall include all mandatory elements listed in TCC 24.35.130.
 2. A description of the surface and subsurface geology, hydrology, soils, and vegetation on the site; conclusions and recommendations regarding the effect of geologic conditions on the proposed development; assessments and conclusions regarding the stability or instability of the site for the existing conditions and the developed conditions over the life of the project.
 3. A detailed description of any previous grading activity, soil instability, or slope failure.
 4. A site plan, as defined in TCC 24.35.130(H)(9).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.160 Geologic hazards—Additional requirements for geologic assessments in landslide hazard areas.

In addition to the requirements in TCC 24.35.130, the following shall be required for geologic assessments in landslide hazard areas, as specified:

- A. The geological assessment for a landslide hazard area shall be prepared by a geotechnical professional who is licensed as a professional engineer or engineering geologist with a minimum of four years of relevant professional employment, as determined by the director.
- B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no landslide hazard area exists within three hundred feet of the development proposal site. A geotechnical letter shall, at a minimum, include the following:

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1. The letter shall be labeled, identifying the submittal as a "landslide hazard geotechnical letter" and shall include all mandatory elements listed in TCC 24.35.130.
2. The geotechnical letter shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).
- C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that a landslide hazard area exists, but is located more than three hundred feet away from the proposed project area, and in their opinion, will not impact the subject site. A geotechnical evaluation shall, at a minimum, include the following:
 1. The cover letter for the document shall clearly identify the submittal as a "landslide hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.
 2. A site plan, as defined in TCC 24.35.130(H)(9).
 3. A description of the surface and subsurface geology, hydrology, soils, and vegetation on the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, the effect of the proposed development on geologic conditions, and opinions and recommendations on the stability or instability of the site over the life of the project.
- D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that 1) a landslide hazard area exists within three hundred feet of the proposed project area; or 2) a landslide hazard area is located more than three hundred feet away from the proposed project area, but in their opinion, will impact the subject site. A geotechnical report shall, at a minimum, include the following:
 1. The cover letter for the document shall clearly identify the submittal as a "landslide hazard geotechnical report" and shall include all mandatory elements listed in TCC 24.35.130.
 2. A site plan, as defined in TCC 24.35.130(H)(9).
 3. A description of the surface and subsurface geology, hydrology, and soils on the site; a list of the landslide hazard indicators; conclusions and recommendations regarding the effect of geologic conditions on the proposed development and the effect of the proposed development on geologic conditions;
 4. Assessment of the role of existing vegetation on maintaining slope stability on site;
 5. Subsurface characterization data must be provided. The data shall be based on both existing and new information that may include soil borings (SPT or other appropriate driven sample collection methods), test pits, geophysical surveys, or other appropriate subsurface exploration methods, as approved by the director, development of site-specific soil and/or rock stratigraphy, and measurement of groundwater levels including variability resulting from seasonal changes, alterations to the site, and other factors as determined by the director.
 6. The geotechnical or boring data shall provide sufficient information for the geotechnical professional to determine slope stability. A written explanation shall be provided and include the logs outlining how the work was performed (equipment, company, drillers, etc.), weather, classification systems, and other information that incorporates all of the variables related to project performance.

7. The soil classification shall meet the requirements of Title 14 TCC, Buildings and Construction.
8. The three-dimensional subsurface conditions at the site shall be included in the report.
9. Soil strength and index properties (i.e., unit weight, cohesion, etc.) shall be provided for each soil unit interpreted from the subsurface characterization of the site.
10. A detailed description of any prior grading activity, soil instability, or slope failure.
11. Assessments and conclusions regarding slope stability for both the existing and developed conditions shall be presented and documented. These assessments and conclusions shall include:
 - a. Evaluation of the potential types of landslide failure mechanisms (e.g., debris flow, rotational slump, translational slip, etc.) that may affect the site.
 - b. Quantitative stability evaluation of slope conditions of the various failure mechanisms using state-of-the-practice modeling techniques as determined by the director. Limiting equilibrium methods of analysis shall state the stability conditions as a factor of safety. The most unstable failure geometry(ies) shall be presented in the form of a cross-section(s), with the least stable failure geometry for each failure mechanism clearly indicated. The stability evaluation shall also consider dynamic (earthquake) loading, and shall use a minimum horizontal acceleration as established by Title 14 TCC, Buildings and Construction.
 - c. An analysis of slope regression rate shall be presented in those cases where stability is impacted or influenced by erosional processes (e.g., wave cutting, stream meandering, etc.) acting on the toe of the slope.
12. Mitigation recommendations using engineered measures and any relevant best available science to protect the proposed structure(s) and any adjacent structures, infrastructure, adjacent wetlands, or critical fish and wildlife habitat from damage or destruction as a result of proposed construction activities shall be designed by a professional engineer. The geotechnical report shall contain:
 - a. Design plans and associated design calculations for engineered structures or drainage systems (e.g., structural foundation requirements, retaining wall design, etc.).
 - b. Recommendations and requirements pertaining to the handling of surface and subsurface runoff in the developed condition.
 - c. Identification of necessary geotechnical inspections to assure conformance with the report mitigation and recommendations.
 - d. Proposed angles of cut and fill slopes, site grading requirements, final site topography (shown as two-foot contours), and the location of any proposed structures, on-site septic systems, wells, and stormwater management features or facilities associated with the development detailed within the body of the report and shown on a site map at the same scale as required by the review authority.
 - e. Soil compaction criteria and compaction inspection requirements.
 - f. An analysis that indicates how the proposal meets the standards outlined in TCC 24.15.030-24.15.240.

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- g. Structural foundation requirements and estimated foundation settlement shall be provided if structures are proposed.
- h. Lateral earth pressures.
- i. Suitability of on-site soil for use as fill.
- j. Mitigation measures for building construction on each lot for short plats, large lots, or formal plats such that additional geotechnical professional involvement is minimized during building construction.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.170 Geologic hazards—Additional requirements for geologic assessments in marine bluff hazard areas.

In addition to the requirements in 24.35.130 TCC, the following shall be required for geologic assessments in marine bluff hazard areas, as specified:

- A. The geological assessment for a marine bluff hazard area shall be prepared by a geotechnical professional who is licensed as a professional engineer or engineering geologist with a minimum of four years of relevant professional employment, as determined by the director.
- B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no marine bluff hazard area exists within three hundred feet of the development proposal site (i.e. legal lot). A geotechnical letter shall, at a minimum, include the following:
 - 1. The letter shall be labeled, identifying the submittal as a "marine bluff hazard geotechnical letter" and shall include all mandatory elements listed in 24.35.130 TCC.
 - 2. The geotechnical letter shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).
- C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that a marine bluff hazard area exists, but is located more than three hundred feet away from the proposed development, and in their opinion, will not impact the subject site. A geotechnical evaluation shall, at a minimum, include the following:
 - 1. The cover letter for the document shall clearly identify the submittal as a "marine bluff hazard geotechnical evaluation" and shall include all mandatory elements listed in 24.35.130 TCC.
 - 2. A site plan, as defined in TCC 24.35.130(H)(9).
 - 3. A general description of the on-site geology and shoreline processes affecting the subject property as well as a detailed discussion of how the site could be developed without the use of a bulkhead along the shoreline.
 - 4. Assessments and conclusions of the stability or instability of the site including past slope failures if any, their timing, size, frequency, and mechanism; assessment of the likelihood of future

failures, and identification of those aspects of the potential development that may contribute to future failures.

- D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that 1) a marine bluff hazard area exists within three hundred feet of the proposed project area; or 2) a marine bluff hazard area is located more than three hundred feet away from the proposed project area, but in their opinion, will impact the subject site. A geotechnical report shall, at a minimum, include the following:
1. The cover letter for the document shall clearly identify the submittal as a "marine bluff hazard geotechnical report" and shall include all mandatory elements listed in 24.35.130 TCC.
 2. A site plan, as defined in TCC 24.35.130(H)(9).
 3. A description of the surface and subsurface geology, hydrology, and soils on the site, as well as a detailed discussion of how the site could be developed without the use of a bulkhead along the shoreline.
 4. Assessment of the role of existing vegetation on maintaining slope stability on site.
 5. Subsurface characterization data must be provided. The data shall be based on both existing and new information that may include soil borings (SPT or other appropriate driven sample collection methods), test pits, geophysical surveys, or other appropriate subsurface exploration methods, as approved by the director, development of site-specific soil and/or rock stratigraphy, and measurement of groundwater levels including variability resulting from seasonal changes, alterations to the site, and other factors as determined by the director.
 6. Soil strength and index properties (i.e., unit weight, cohesion, etc.) shall be provided for each soil unit interpreted from the subsurface characterization of the site. Refer to requirements under TCC 24.35.160.
 7. Shoreline processes including an evaluation of erosion and bluff retreat over the past decade, and an estimate of probable rate of erosion over the useful life of the development (normally fifty years).
 8. A detailed description of any prior grading activity, soil instability, or slope failure.
 9. Assessments and conclusions regarding slope stability for both the existing and developed conditions shall be presented and documented. These assessments and conclusions shall include:
 - a. Evaluation of the potential types of landslide or bluff failure mechanisms (e.g., debris flow, rotational slump, translational slip, etc.) that may affect the site.
 - b. Quantitative stability evaluation of slope conditions of the various failure mechanisms using state-of-the-practice modeling techniques. Limiting equilibrium methods of analysis shall state the stability conditions as a factor of safety. The most unstable failure geometry(ies) shall be presented in the form of a cross-section(s), with the least stable failure geometry for each failure mechanism clearly indicated. The stability evaluation shall also consider dynamic (earthquake) loading, and shall use a minimum horizontal acceleration as established by Title 14 TCC, Buildings and Construction.

- c. An analysis of the slope regression rate shall be presented in those cases where stability is impacted or influenced by erosional processes (e.g., wave cutting, stream meandering, etc.) acting on the toe of the slope.
- 10. Assessments and conclusions of the stability or instability of the site including past slope failures if any, their timing, size, frequency, and mechanism; assessment of the likelihood of future failures, and identification of those aspects of the potential development that may contribute to future failures.
- 11. Evaluation of site development alternatives that use nonstructural erosion control measures such as vegetation alone or in combination with rock at the toe of the marine bluff, beach berm, an earthen berm, logs anchored at the toe of the slope or beach nourishment.
- 12. Mitigation recommendations using engineered measures to protect the proposed structure(s) and any adjacent structures, infrastructure, adjacent wetlands, or critical fish and wildlife habitat from damage or destruction as a result of proposed construction activities shall be designed by a professional engineer. The geotechnical report shall contain.
 - a. Design plans and associated design calculations for engineered structures or drainage systems (e.g., structural foundation requirements, retaining wall design, etc.).
 - b. Recommendations and requirements pertaining to the handling of surface and subsurface runoff in the developed condition.
 - c. Identification of necessary geotechnical inspections to assure conformance with the report mitigation and recommendations.
 - d. Proposed angles of cut and fill slopes, site grading requirements, final site topography (shown as two-foot contours), and the location of any proposed structures, on-site septic systems, wells, and stormwater management features or facilities associated with the development detailed within the body of the report and shown on a site map at the same scale as required by the review authority.
 - e. Soil compaction criteria and compaction inspection requirements.
 - f. An analysis that indicates how the proposal meets the standards outlined in TCC 24.15.030-240.
 - g. Structural foundation requirements and estimated foundation settlement shall be provided if structures are proposed.
 - h. Lateral earth pressures.
 - i. Suitability of on-site soil for use as fill.
 - j. Mitigation measures for building construction on each lot for short plats, large lots, or formal plats such that additional geotechnical professional involvement is minimized during building construction.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.180 Geologic hazards—Additional requirements for geologic assessments in mine hazard areas.

In addition to the requirements in Chapter 24.18 TCC and TCC 24.35.130, the following shall be required for geologic assessments in mine hazard areas, as specified:

- A. The geological assessment for a mine hazard area shall be prepared by a geotechnical professional who is licensed as a professional engineer or engineering geologist with a minimum of four years of relevant professional employment, as determined by the director.
- B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no mine hazard area exists within 300 feet of the development proposal site. A geotechnical letter report shall, at a minimum, include the following:
 1. The letter shall be labeled, identifying the submittal as a "mine hazard geotechnical letter" and shall include all mandatory elements listed in TCC 24.35.130.
 2. The geotechnical letter shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).
 3. A description of historical data and information required by Chapter 24.18 TCC and other information used in the assessment.
- C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that a mine hazard area exists, but is located more than three hundred feet away from the proposed project area, and in their opinion, will not impact the subject site. A geotechnical evaluation report shall, at a minimum, include the following:
 1. The cover letter for the document shall clearly identify the submittal as a "mine hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.
 2. A site plan, as defined in TCC 24.35.130(H)(9).
 3. A description of the surface and subsurface geology, hydrology, soils and vegetation of the site and a list of the mine hazard indicators found on or in the vicinity of the site.
 4. A summary of the results, conclusions, and recommendations resulting from the geological assessment of the mine hazards on or in the vicinity of the site.
 5. A summary of the data and methods of analysis used to support the conclusions and recommendations presented in the geotechnical evaluation.
 6. The review authority may waive the requirement for this report if it can be proven that the mine hazard no longer exists.
 7. The geotechnical evaluation shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).
 8. A description of historical data and information required by Chapter 24.18 TCC and other information used in the assessment.
- D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that a mine hazard area exists within three hundred feet of the

proposed project area or when the results of the site investigation by the geotechnical professional indicate that mitigation measures are necessary in order to construct or develop within a mine hazard area. A geotechnical report shall, at a minimum, include the following:

1. The cover letter for the document shall clearly identify the submittal as a "mine hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.
2. A site plan, as defined in TCC 24.35.130(H)(9).
3. A description of the surface and subsurface geology, hydrology, soils and vegetation of the site and a list of the mine hazard indicators found on or in the vicinity of the site.
4. A description of the analytical tools and processes used to develop the geotechnical report.
5. A detailed description of any prior grading activity, soil instability, or ground failure.
6. Data from surface exploration such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or site investigations that may be useful in making conclusions or recommendations about the site under investigation.
7. A description of historical data and information required by Chapter 24.18 TCC and other information used in the evaluation, together with sources, to include:
 - a. Topographic maps at a scale and contour interval of sufficient detail to assess the site. The site boundaries and proposed development site shall be overlain with the mine plan view map.
 - b. Aerial photography, as appropriate.
 - c. Geologic cross-sections and other illustrative data, as appropriate.
8. A summary of the results, conclusions, and recommendations resulting from the geological assessment of the mine hazards on or in the vicinity of the site.
9. The review authority may waive the requirement for this report if it can be proven that the mine hazard no longer exists.
10. The geotechnical report shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.190 Geologic hazards—Additional requirements for geologic assessments in seismic hazard areas.

In addition to the requirements in TCC 24.35.130, the following shall be required for geologic assessments in seismic hazard areas, as specified:

- A. The geological assessment for a seismic hazard area shall be prepared by a team that includes a geotechnical professional who is licensed as an engineering geologist specializing in seismic hazards with a minimum of four years of relevant professional employment, as determined by the director.

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- B. The geological assessment shall be submitted in the form of a geotechnical letter when the geotechnical professional finds that no seismic hazard areas exist within the development proposal site. A geotechnical letter shall, at a minimum, include the following:
1. The letter shall be labeled identifying the submittal as a "seismic hazard geotechnical letter" and shall include all mandatory elements listed in TCC 24.35.130.
 2. The geotechnical letter shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).
- C. The geological assessment shall be submitted in the form of a geotechnical evaluation when the geotechnical professional finds that a seismic hazard area exists but is located outside the proposed project area. A geotechnical evaluation shall, at a minimum, include the following:
1. The cover letter for the document shall clearly identify the submittal as a "seismic hazard geotechnical evaluation" and shall include all mandatory elements listed in TCC 24.35.130.
 2. A site plan, as defined in TCC 24.35.130(H)(9).
 3. Verification that a seismic hazard exists on the property, but is located outside the proposed project site.
 4. A description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations for compensating for the seismic hazards present.
 5. The geotechnical evaluation shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).
- D. The geological assessment shall be submitted in the form of a geotechnical report when the geotechnical professional finds that a seismic hazard area exists within the proposed project area. A geotechnical report shall, at a minimum, include the following:
1. The cover letter for the document shall clearly identify the submittal as a "seismic hazard geotechnical report" and shall include all mandatory elements listed in TCC 24.35.130.
 2. A site plan, as defined in TCC 24.35.130(H)(9). The site plan shall also include any set-backs from the defined locations of the seismic hazard area, as determined by the geotechnical professional(s), to protect any portion of the proposed development activity from damage caused by liquefaction-induced ground displacement.
 3. Verification that the proposed project site falls within a seismic hazard area.
 4. The field investigation shall include subsurface characterization using conventional geotechnical borings and standard penetration testing (SPT) or using cone penetration testing (CPT).
 5. The geotechnical report shall include a detailed assessment of the liquefaction and/or dynamic settlement hazard based on an analysis of all available SPT or CPT data using state-of-the-practice methodologies, such as provided by Youd and Idriss (1997) or subsequent technical publications. The methodology used in the analysis shall be documented, and all results of intermediate and final calculations and results, including factors of safety, shall be included.

6. The geotechnical report shall contain an assessment of the potential for large lateral spreads or flow failures, bearing failures, settlement, limited lateral displacement, and floatation of buried facilities. The methodologies used must be, at a minimum, state-of-the-practice, and where applicable, should employ more than one method of analysis. All results of intermediate and final calculations and conclusions regarding the potential and severity of the possible liquefaction and/or dynamic settlement induced failure modes shall be presented.
7. Alternative mitigation measures including structural and foundation design options and/or soil improvement techniques shall be evaluated and compared for their effectiveness in reaching the level of performance specified in the report. Final designs and specifications and plans for structural and/or foundation design shall be included if applicable. Effectiveness of soil improvement techniques shall be specified in terms of post-treatment densification or strength improvement as measured by appropriate subsurface investigation and testing. The extent of post-treatment verification testing shall be provided on a site map at the same scale as required by the approval authority.
8. A description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations for compensating for the seismic hazards present.
9. The geotechnical report shall be prepared under the responsible charge of a geotechnical professional(s) and be signed, sealed and dated by the geotechnical professional(s).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.200 Frequently flooded areas—Special reports.

The following special reports are required for uses and activities proposed to be located within flood or channel migration hazard areas, including the NDZ and RDZ associated with high ground water hazard areas: drainage and erosion control plan; topographic survey of the site plan; and flood elevation certificate from a licensed surveyor. If the subject site contains a channel migration zone identified pursuant to TCC 24.20.045 and .055, the applicant shall submit a one- hundred-year channel migration hazard area report.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.205 Frequently flooded areas—Flood elevation certificate.

A flood elevation certificate shall be required for a structure when a property lies within the one-hundred-year floodplain (flood hazard zone) of any river, lake, pond, wetland, or marine waters within Thurston County consistent with Chapter 14.38 TCC.

(Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.35.210 Frequently flooded areas—Drainage and erosion control plan.

The applicant shall submit a drainage and erosion control plan which addresses methods to minimize erosion and contain soil within the project boundaries during construction and to provide for stormwater management from the site and its surroundings during and after construction, consistent with the Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

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(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.220 Frequently flooded areas—Grading plan.

- A. An applicant shall submit a grading plan which identifies the proposed development project including the movement of material on-site along with the proposed and existing contours of the site, and cross sections thereof.
- B. This report shall be prepared by a civil engineer licensed in the state of Washington, consistent with Title 14 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.230 Frequently flooded areas—Topographic survey.

- A. An applicant shall submit a topographic survey when development on the subject property lies within the one-hundred-year floodplain of any river, lake, wetland or marine waters within Thurston County pursuant to Chapter 14.38 TCC, as amended; or within a high ground water hazard area/NDZ/RDZ; or in a one-hundred-year channel migration hazard area. The survey shall indicate the one-hundred-year floodplain elevation above mean sea level of the site or BFE, as applicable (see Chapter 24.03 and TCC 24.20.015) and the location and first floor elevation of any proposed structures as required by TCC 14.38, as amended or above the BFE consistent with TCC 24.20.015—24.20.035.
- B. Where elevation data is not available from the flood insurance rate maps a licensed surveyor shall establish an approximate flood elevation based upon other sources of information as described in TCC 14.38.040, as amended.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.240 Frequently flooded areas—Channel migration hazard area report.

If the approval authority determines that a proposed project is in an historic channel migration zone of a Type S or F stream and the one-hundred-year channel migration hazard area has not been mapped for the site, the applicant shall identify the location of the one-hundred-year channel migration hazard area on the site as follows:

- A. A determination as to whether the one-hundred-year channel migration hazard area is located on site and, if so, the extent of its location, shall be made by a qualified professional proficient in fluvial geomorphology (e.g., possess a graduate degree in geology or physical geography with specialization in fluvial geomorphology, and have at least two years of professional experience) using a reliable methodology to determine channel migration accepted by the resource stewardship department (e.g., as described in Forest Practices Board Manual, Standard Methods for identifying Channel Migration Zones and Bankfull Channel Features, dated 8/2001, as amended, or as described in "A Framework for Delineating Channel Migration Zones," Washington Department of Ecology, 2003 as amended). Maps delineating the one-hundred-year channel migration zone shall be of a scale and format specified by the department.
- B. The following areas shall be considered outside of the one-hundred-year channel migration hazard area:

1. Areas separated from the stream channel by a legally established structure that the approval authority, in consultation with a qualified professional, determines will block channel migration. This may include, but is not limited to, dikes and public roads that extend above the one-hundred-year flood elevation which are constructed to remain intact through a one-hundred-year flood. Constraints to channel migration that do not extend above the one-hundred-year flood elevation shall not be considered to limit channel migration unless demonstrated otherwise based on scientific and technical information; and
2. Areas separated from the stream channel by a natural geologic feature, such as a rock outcrop, that the approval authority, in consultation with a qualified professional, determines will stop channel migration.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.250 Special reports.

Applications for development proposals on property containing an important species or habitat shall provide: a critical area report; a drainage and erosion control plan; and a grading plan as indicated in this chapter. Applications for development proposals that are within six hundred feet of a point location of an important species may be required to submit special reports described in this chapter if the approval authority determines that the project location and nature may have an impact on an important species. If restoration is proposed in exchange for reduced habitat area width, the applicant shall submit a habitat restoration plan consistent with TCC 24.35.310.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.260 Critical area reports required.

All applications for projects requiring a critical area review permit (see Chapter 24.40 TCC) on sites containing important habitats and species areas or associated buffers shall include a critical area report as specified in this section. The critical area report for important habitats and species may also be referred to as a habitat management plan. If the use or activity is proposed to be located within an important habitat area or an associated buffer, a mitigation plan shall also be submitted.

- A. Critical area reports shall be prepared by a qualified professional biologist with experience preparing reports for the relevant species or type of habitat. The report shall be prepared in consultation with staff from the appropriate state agency, such as WDFW or DNR.
- B. The approval authority shall verify compliance with the applicable standards contained in Chapters 24.01, 24.25, 24.65 TCC, and 24.70, prior to authorizing the proposed use or activity.
- C. All proposals for land development activities, including land clearing, on a prairie soil type shown in Table 24.25-6 (Chapter 24.25 TCC), or in an area that could be classified as a prairie or oak habitat under this chapter, or are within six hundred feet of those habitats, shall be subject to the requirements of this chapter, except where one of the following conditions exist:
 1. Proposals for which there is no expansion of the structural footprint of an existing structure, or where there is no change in the location and area of existing impervious surfaces; or
 2. Minor road and street improvements (refer to WAC 197-11-800(2)(c)); or

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3. Developed parcels less than one acre in size for which an accessory structure or an addition to the primary structure is proposed, and which are surrounded by similarly sized and similarly developed lots, where developed means the presence of a primary structure(s), with associated paving, lawns, or non-native landscaping; or
4. New development is proposed on vacant parcels less than one-half acre in size surrounded by similar sized developed lots, where developed means the presence of a primary structure(s), with associated paving, lawns or non-native landscaping.

For the purposes of this section, a structure shall not include sheds, agriculture buildings, buildings less than two hundred square feet, or similar structures as determined by the approval authority.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.270 Waiver of special reports.

The director may waive the submittal of any and all of the fish and wildlife habitat conservation areas special reporting requirements identified in this chapter under the following conditions:

- A. The removal of vegetation is minimal and will not impact the values or functions of an important habitat area or associated buffer;
- B. Project activities will not impact the values or functions of an important habitat area or associated buffer; and
- C. In the judgment of the director, any waived special reporting requirements would not be required to adequately address the potential critical area impacts and required mitigation.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.280 Critical area reports—Minor projects.

- A. A critical area report for minor projects shall be submitted for:
 1. Small scale projects with less than five thousand square feet of impervious surface that will not encroach into an important habitat area or associated buffer; and
 2. Other projects on sites containing important habitat areas where all of the proposed development would be located at least four hundred feet from all important habitat areas, as verified in the field. This does not include priority species conservation areas or intensive uses identified in TCC 24.25.220.
- B. Applicants for projects that do not qualify under this section must comply with TCC 24.35.290.
- C. The critical area report for minor projects shall contain the following information, as applicable:
 1. The applicant's name, address, and contact information;
 2. The name, contact information, and qualifications of the report's primary author;
 3. The site address and tax parcel number;

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4. A vicinity map with driving directions;
 5. A site map including:
 - i. A north arrow;
 - ii. Scale;
 - iii. The approximate location of the important habitat area on site and an approximate delineation of the other critical areas and associated buffers on-site and within three hundred feet of the site;
 - iv. Topographic contours at two-foot intervals;
 - v. Existing physical features, including, but not limited to, buildings, fences and other structures, roads, parking lots, utilities, and water bodies, etc.;
 - vi. Property lines, rights-of-way, and easements; and
 - vii. The location of the proposed activity or use, including proposed structures, grading and clearing limits, and any other site development and modifications.
 6. Text outlining, as applicable:
 - i. Site acreage and general site characteristics; and
 - ii. A description of the proposal.
- D. Based on the quality and detail of information provided, the site's complexity or the use's potential to impact important habitat areas or associated buffers, the approval authority may require additional information listed in TCC 24.35.290 as necessary to make a decision regarding the proposal.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.290 Requirements for critical area reports.

Applicants for projects that do not qualify for a critical area report—minor projects shall submit a report and accompanying plan/data sheets containing, at a minimum, the relevant information specified in this section.

- A. Maps. The report shall contain a vicinity map with detailed driving instructions to the subject site and site map setting forth the following, as applicable:
 1. A north arrow and scale.
 2. The location of important habitat areas and any marine or riparian management zones on-site, the point location of an important species within six hundred feet of the development proposal site, and other critical areas that extend onto the property proposed for development and within three hundred feet of the project area. The important habitat areas and any established and proposed buffers shall be staked and flagged in the field. A professional land surveyor shall survey the boundary of the important habitat area or, if applicable, associated buffer after the approval authority has determined that it is located correctly. The habitat area and management zone

- delineations shall be submitted to the approval authority in a format acceptable to the resource stewardship department.
3. Property lines, rights-of-way, and easements.
 4. Topographic contours at two-foot intervals.
 5. Patterns of surface water movement and, if relevant (e.g., for streams, lakes, ponds, Puget Sound, and riparian habitats), known subsurface water movement into, through, and out of the site.
 6. All existing physical features including, but not limited to, buildings, fences and other structures, roads, parking lots, utilities, and water bodies.
 7. A depiction of the proposed activity or use and other proposed modifications to the site including the grading and clearing limits and proposed stormwater management facilities.
- B. The important habitat area, associated buffer, and any management zone boundary shall be identified on all grading, landscaping, site, utility or other development plans submitted for the project.
- C. Text. The report shall contain the following information, as applicable:
1. The applicant's name and contact information;
 2. The name, contact information, and qualifications for the primary report author(s);
 3. The site address and tax parcel number;
 4. A description of the proposal;
 5. Identification of all the local, state, and federal permit(s) required for the project;
 6. Assessment of existing conditions including, as relevant, vegetative types and complexity, hydrology, soil conditions, general site conditions, acreage and identification and characterization of the important wildlife habitat and any other critical areas on-site;
 7. If a stream, Puget Sound, pond or lake is affected, a hydrological analysis, including existing surface and known significant sub-surface flows into and out of the important habitat area;
 8. Identification of the important habitat area's functions and documentation of fieldwork and literature reviewed pertaining to functional assessments;
 9. An analysis of site development alternatives and a discussion of measures proposed to avoid impacts and preserve the important habitat area/buffer and associated functions; and
 10. A description of the nature and extent of the proposed use or activity's potential direct or indirect impacts to the important habitat area and associated buffer, including a description of impacted vegetation, hydrology, soil conditions, and other relevant factors.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.300 Requirements for mitigation plans.

If important habitat areas or associated buffers would be impacted, a mitigation plan shall be submitted with the critical area report. The mitigation plan shall identify proposed measures to avoid, minimize and mitigate the proposed project's impacts to the important habitat areas and associated buffers. The mitigation plan shall include, as applicable:

- A. Mitigation Proposal. The general mitigation scheme and justification that provides for restoration or mitigation of the projects impacts, approximate project sequencing and schedule, proposed plant selection, and maintenance program;
- B. Performance Standards. Performance standards for evaluating whether or not mitigation is successful. These standards shall address all of the relevant habitat functions being mitigated including, but not limited to, water quality, habitat diversity, establishment of viable plant communities, vegetative complexity, and vegetative survival rates;
- C. Monitoring and Contingency Measures. Proposed monitoring and contingency measures shall be provided per TCC 24.35.017.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.310 Requirements for restoration plans.

Habitat restoration plans shall be prepared by a qualified biologist or other qualified professional and shall identify all measures needed to improve the habitat functions. Priority and locally important habitats and species, if present, shall be addressed in the plan. The restoration plan shall be prepared, consistent with best available science, by the applicant's qualified biologist. Restoration measures shall include, as applicable, but are not limited to, the following:

- A. Planting a mix of conifers and other native trees in degraded riparian habitat areas that will provide structural diversity and a source of large woody debris (e.g., fallen trees) for the stream, marine areas, and productive upland habitat. The trees shall be appropriate to the habitat, field grown, at least two feet in height, and planted between October 1 and April 1. The applicant shall provide a watering plan indicating how the trees will be watered during the first two years following planting to ensure survival.
- B. Replacing invasive or nonnative plant species with native vegetation that occurs in the habitat.
- C. Replacing rip-rap, concrete, tires or similar stream bank armoring along a Type F or S stream with anchored logs or another appropriate form of bioengineering consistent with the latest edition of WDFW's Integrated Stream bank Protection Guidelines. (Also see Chapter 24.20 TCC, Frequently Flooded Areas).
- D. Planting vegetation appropriate and consistent with the surrounding habitat to increase root density along stream banks that are eroding or are vulnerable to erosion, as determined by the approval authority. Unless otherwise recommended by a qualified professional, such vegetation shall be planted between October 1 and April 1. The applicant shall provide a watering plan indicating how the plants will be watered during the first two years following planting to ensure survival.
- E. Off channel habitat restoration or enhancement (e.g., sloughs) that significantly improves the productivity of a stream section.

- F. Installing rot free, slow decomposing tree trunks with root balls (e.g., red cedar, Douglas fir, big leaf maple) and/or large rocks in appropriate locations in Type F or S streams that lack such structure, as determined by the approval authority in consultation with the WDFW and others with expertise. The approval authority may require that a qualified engineer review the proposal to assure that it will function as intended without exacerbating flooding risks. Also see Chapter 24.20 TCC, Frequently Flooded Areas.

Unless otherwise recommended by a qualified professional consistent with best available science, logs placed in streams between sixteen and thirty-two feet wide shall be at least twenty-two inches in diameter. Trees placed in streams wider than thirty-two feet shall be at least twenty-six inches in diameter.

Large woody debris shall not be installed in the following locations unless it is anchored:

1. Streams that have a history or high potential for debris torrents or other mass wasting;
2. Within fifty feet upstream from culverts or bridges;
3. Confined streams where the width of the valley floor is less than twice the bankfull width;
4. In areas that have a known history of log jams that threaten structures or roads.

(For guidance on tree selection and placement, see the Forest Practices Board Manual, Section 26, dated August 2001, Guidelines for Large Woody Debris Placement Strategies, as amended).

- G. Removal of roads within the habitat area and revegetation of the roadbeds with appropriate native vegetation. The approval authority may require soil amendment to enable plant survival and drainage in restored roadbeds.
- H. Removal of structures within the habitat area and revegetation of the building sites with appropriate native vegetation. The approval authority may require soil amendment on the compacted building site to enable plant survival and drainage.
- I. Removal or replacement of culverts or facilities that are a barrier to fish migration.
- J. Elimination of channels and ditches in a habitat area or buffer that convey stormwater to a waterbody and installation of a device (e.g., a perforated pipe) to induce sheet flow of stormwater at the outer edge of the habitat area or buffer, as applicable.
- K. Planting native vegetation appropriate and consistent with the surrounding habitat in degraded habitat areas that will provide structural diversity for the habitat and associated species. The plants shall be appropriate to the habitat, native to the area and planted between October 1 and April 1. The applicant shall provide a watering plan indicating how the plants will be watered during the first two years following planting to ensure survival.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.320 Requirements for drainage and erosion control plans.

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The applicant shall submit a drainage and erosion control plan that addresses methods to minimize erosion and contain soil within the project boundaries during construction. The plan shall also provide for stormwater management from the site and its surroundings during and after construction consistent with the Chapter 17.15 TCC, Drainage Design and Erosion Control Manual for Thurston County, as amended (Chapter 15.05 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.330 Requirements for grading plans.

The applicant shall submit a grading plan. This plan shall identify the proposed development project including the movement of material on-site along with the proposed and existing contours of the site, and cross sections thereof. The report shall be prepared by a civil engineer licensed in the State of Washington, consistent with Chapter 14.37 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.340 Wetlands—Length of wetland report validity.

Wetland reports shall be valid for a period of five years, or the duration of the underlying permit. This excludes subdivisions, which are regulated under Title 18 TCC and Chapter 58.17 RCW. A wetland report may be submitted for other types of permits if the report is less than five years old. The approval authority may require the wetland report to be updated if site conditions or regulatory requirements have changed.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.350 Wetlands—Special reports.

A wetland critical area report is required as part of the application for projects proposed to be located on sites containing wetlands and/or associated buffers. If the use or activity is proposed to be located within a wetland or buffer, the applicant shall also submit a wetland mitigation plan (see TCC 24.35.380). The director may waive, or limit the scope of, any special reports with a written finding that the potential for wetland or buffer impacts are low and that the proposed development would not cause significant adverse impacts, or that there is adequate biological/ecological information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.360 Wetlands—Critical area report—Minor projects.

- A. A wetland critical area report - minor projects shall be submitted for:
 1. Projects with less than five thousand square feet of impervious surfaces that will not encroach into a wetland or buffer; and
 2. Other projects on sites containing wetlands or buffers where all of the proposed development would be located at least four hundred feet from all wetlands, as verified in the field. This does not include intensive uses identified in TCC 24.30.200.

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- B. Applicants for projects exceeding the size limits in this section, involving intensive uses, or all projects that would encroach upon a wetland or associated buffer must comply with TCC 24.35.370.
- C. The wetland critical area report - minor projects shall contain the following information as applicable:
 - 1. The applicant's name and contact information.
 - 2. The submitting wetland scientist's name, contact information, and qualifications.
 - 3. The site address and tax parcel number.
 - 4. A vicinity map with driving directions.
 - 5. A site map including:
 - a. A north arrow and scale;
 - b. For projects at least four hundred feet from a wetland: The wetland's category, if known, and its approximate location and the approximate location of other critical areas and their buffers on-site and within three hundred feet off-site;
 - c. For projects within four hundred feet of a wetland: identification of the wetland's category, delineation of the wetland boundary and the recommended buffer consistent with Ecology's Wetland Rating System for Western Washington;
 - d. Topographic contours at two-foot intervals;
 - e. All existing physical features, including, but not limited to, buildings, fences and other structures, roads, parking lots, utilities, and water bodies;
 - f. Property lines, rights-of-way, and easements; and
 - g. The location of the proposed activity or use, including proposed structures, grading and clearing limits, and any other site modifications.
 - 6. Text outlining:
 - a. Site acreage and general characteristics;
 - b. A description of the proposal;
 - c. For projects within four hundred feet of a wetland: the wetland's hydrogeomorphic class, category, and function scores consistent with Ecology's Wetland Rating System for Western Washington; and the proposed wetland buffer and reasoning; and
 - d. A description of the wetland review process including when field work was conducted, data that was used, and general observations.

- D. Based on the quality and detail of information provided, the site's complexity or the use's potential to impact wetlands and buffers, the approval authority may require additional information listed in TCC 24.35.370 as necessary to make a decision regarding the proposal.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.370 Wetlands—Critical area report.

Applicants for projects that do not qualify under TCC 24.35.360 shall submit a report and accompanying plan/data sheets containing, at a minimum, the information specified in this section.

- A. Preparation by a Qualified Professional. Certified professional wetland scientists or non-certified professional wetland scientists with a minimum of five years experience in the field of wetland science, including experience preparing wetland reports, shall prepare wetland critical area reports. The wetland report shall be signed and dated by the primary author.
- B. Maps. The report shall contain a vicinity map with detailed driving instructions to the subject site and site map setting forth the following, as applicable:
1. A north arrow and scale.
 2. Property lines, rights-of-way, and easements.
 3. All existing physical features including, but not limited to, buildings, fences and other structures, roads, parking lots, utilities, and water bodies.
 4. The location of wetlands and associated buffers on-site, consistent with TCC 24.30.020. The wetland boundaries shall be staked and flagged. A professional land surveyor shall survey the wetland boundary after the approval authority has determined that it is located correctly. The final wetland and buffer delineations shall be submitted to the approval authority in a format acceptable to the resource stewardship department.
 5. Wetlands and buffers off-site within three hundred feet of the site boundaries in as much detail as possible.
 6. Topographic contours at two-foot intervals.
 7. Patterns and direction of surface water movement and known subsurface water movement into, through, and out of the site.
 8. A depiction of the proposed activity or use and other proposed modifications to the site, including grading and clearing limits and proposed stormwater management facilities, including outlets.
 9. Identification of areas where proposed impacts to the wetland and buffer would occur, the size of the impacted wetland and buffer in square feet, and discussion of potential impacts, including any anticipated hydro period alterations.
 10. The wetland boundary, wetland buffer, and all critical area tracts and easements on the subject site shall be identified on all grading, landscaping, site, utility or other development plans submitted for the project.
- C. Text. The report shall contain the following information, as applicable:

1. The applicant's name and contact information;
2. The name, qualifications, and contact information for the primary report author(s);
3. A description of the proposal;
4. Identification of all the local, state, and federal wetland related permit(s) required for the project;
5. The site address and tax parcel number;
6. General site conditions and size;
7. Identification and characterization of all wetlands and buffers on-site and within three hundred feet of the site proposed for development. If the affected property owner does not grant access to the area within three hundred feet of the project site, the wetland scientist shall estimate the site conditions using the best available information;
8. For each wetland on-site, the wetland's hydrogeomorphic classification, category, and function scores, consistent with the Wetland Rating System for Western Washington, the recommended wetland buffer, consistent with TCC 24.30.035—24.30.065, and the rationale;
9. Documentation of any fieldwork performed on the site such as field data sheets for delineations and functional assessments;
10. A hydrological analysis, including existing surface and known sub-surface flows into and out of the subject wetland(s), the location and condition of inlet/outlets (if they can be legally accessed), estimated water depths within the wetland, and estimated hydroperiod patterns based on visual cues such as algal mats, drift lines, and flood debris;
11. Identification and evaluation of all wetland and buffer functions at the subject site (e.g., removing sediment, excess nutrients and pollutants from water; storing floodwater; moderation of stormwater impacts; providing cover, refuge, foraging and breeding habitat for fish and wildlife; sustaining sensitive plant species; and providing shade that moderates water temperature and produces micro-climate effects), consistent with Ecology's Wetland Rating System for Western Washington;
12. A description of the proposed use or activity's potential direct or indirect impacts to the wetland(s), associated buffer(s) and related functions, including stormwater-related impacts to wetland hydrology; and the size of the impacted area;
13. Demonstration of compliance with applicable provisions of this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.35.380 Wetlands—Special reports—Wetland mitigation plan.

Wetland impacts shall be mitigated consistent with an approved mitigation plan. The applicant shall submit a conceptual wetland mitigation plan generally containing the information listed below, as applicable. The county may require use of a standardized wetland mitigation report format.

If the approval authority approves the conceptual mitigation plan, the applicant shall submit a detailed mitigation plan to the approval authority for review and approval, consistent with the provisions of this

section. Prior to submitting detailed wetland mitigation plan, the applicant shall meet with the approval authority to discuss the submittal requirements.

- A. **Demonstrate Qualifications.** A professional wetland scientist shall prepare the mitigation plan. This scientist shall be knowledgeable of wetland conditions within Thurston County and have experience designing wetland mitigation projects, at least some of which have been installed and monitored for a minimum of two years. The design team may include other participants as needed.

Applicants proposing a wetland mitigation project shall demonstrate that the individuals designing, constructing, and monitoring the project have sufficient expertise, supervisory capability, and financial resources to carry out the proposed project. A project manager shall be named, and the qualifications of each team member involved in preparing the mitigation plan and implementing and supervising the project shall be provided, including educational background, areas of expertise, training, and experience with comparable projects. The approval authority, in consultation with Ecology, shall verify the success of the mitigation

- B. **Report.** Wetland mitigation plans shall include a written report and a site plan, commensurate with the scope of the development proposal, including the relevant components listed below (also see the Draft Guidance on Wetlands Mitigation in Washington State, Washington State Department of Ecology publication number 04-06-013B Part 2, 2004):
1. The applicant's name and contact information;
 2. The name, qualifications, and contact information for the primary report author(s);
 3. The location and parcel number of proposed mitigation area;
 4. Identification of all the local, state, and federal wetland related permits required for the project;
 5. A description of the impacted wetland including, at a minimum:
 - a. The wetland's landscape position and the geomorphology of the impacted site;
 - b. The wetland's category, consistent with TCC 24.30.030;
 - c. The wetland's hydrogeomorphic class;
 - d. A characterization of existing wetland and buffer functions;
 - e. Existing wetland acreage;
 - f. Vegetative communities, affected Cowardin classes;
 - g. Hydrologic characteristics;
 - h. Soil and substrate conditions; and
 - i. Topography.
 6. A description of the compensation site, if different from the impacted wetland site, including at a minimum:

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- a. Site size;
- b. Plant communities/Cowardin classes present on site, including any invasive plants or noxious weeds;
- c. Existing wetland and buffer functions;
- d. Soil and substrate conditions; and soils (e.g., soil pit data - hand dug or mechanically trenched, soil boring data; not soil survey data);
- e. Topography;
- f. General hydrologic patterns on the site including identification of groundwater availability; frequency, depth, duration, and timing of flooding; the field data collected to document existing conditions on which future condition assumptions will be based for the hydroperiod; the site's relationship to the watershed/water bodies and demonstration that the site will have an hydrogeomorphic class appropriate for its position in the landscape. Hydrologic monitoring and analysis may be required to document that the proposed source of water and predicted hydroperiod are attainable and suitable for the site and will not adversely impact an existing wetland. If the proposed project could affect Category I wetlands, the approval authority may require computer modeling in determining the hydroperiod;
- g. For those sites that have been recently altered or degraded, a description of historic conditions;
- h. The adjacent site conditions and any known proposed use;
7. An estimate of future conditions at the proposed compensation site if the compensation actions are not undertaken (i.e., how would this site progress through natural succession);
8. A summary of the proposed wetland and buffer impacts and the proposed compensation concept, including:
 - a. Site selection criteria;
 - b. Demonstration that the proposed mitigation replaces all lost and diminished wetland and buffer functions;
 - c. A complete description of the structure and functional relationships sought in the new wetland and buffer;
 - d. For years 1, 3, 5, 10 and 25, and post-installation, conditions expected from the proposed actions on the compensation site including future hydrogeomorphic types, vegetation community types by dominant species (wetland and upland), and including the succession of vegetation community types and dominants expected;
 - e. An assessment of the potential changes in wetland hydroperiod due to the proposed project and how the design has been modified to avoid, minimize or reduce adverse impacts to the wetland hydroperiod;
 - f. The successional sequence of expected changes in hydroperiod for the compensation site(s) for years 1, 3, 5, 10, 25 and post installation;

- g. The change in habitat characteristics expected over the same twenty-five-year time period;
- h. An analysis of the likelihood of persistence of the created or restored wetland based on such factors as surface and groundwater supply and flow patterns, dynamics of the wetland ecosystem, sediment or pollutant influx and/or erosion, periodic flooding and drought, presence of invasive flora or fauna, and potential human or animal disturbance.
- 9. Identification of the mitigation goals, objectives, and the performance standards that will be used to evaluate whether the mitigation is achieving the project goals and objectives.

Identification of the reference wetland used to develop the project goals, objectives and performance standards.

The performance standards shall provide a measurable benchmark for determining whether the project is meeting the mitigation goals and objectives at various stages in the project and establish thresholds for triggering remedial action or contingency measures. At a minimum, performance standards shall address the following:

- a. Wetland size;
- b. The water regime, (e.g., establishment of wetland hydrology, permanently ponded, seasonally inundated); designed hydroperiods; and water quality. Including identification of the proposed method by which the hydroperiod will be evaluated;
- c. Vegetative structure and establishment of viable plant communities (e.g., percent cover with wetland species, area of various Cowardin classes, multi-species, mixed canopy community comprised of emergent, scrub-shrub, and tree species); and survival rates of planted vegetation and coverage for each vegetative stratum;
- d. Hydric soil formation;
- e. If relevant, wildlife habitat (species abundance and diversity targets, habitat diversity indices), or other ecological, geological or hydrological factors;
- 10. The dates for beginning and completing the project;
- 11. For wetland restoration and creation projects, a review of the available literature and/or experience to date in restoring or creating the type of wetland proposed;
- 12. Maintenance plan. A maintenance plan shall be submitted that describes proposed management practices that will protect the wetland and buffer after the project site has been developed. Maintenance includes, but is not limited to, the removal and control of invasive vegetation and noxious weeds, replacement of dead or dying planted vegetation and trash and debris removal;
- 13. Monitoring and contingency plans. Monitoring and contingency plans shall be submitted consistent with TCC 24.35.017.
- C. Construction Plans. If the detailed mitigation plan is approved, the applicant shall submit construction plans consistent with the approved mitigation plan, and a sequence of construction activities. Wetland mitigation shall occur consistent with a schedule approved by the approval authority.

Written specifications and descriptions of compensation techniques shall be provided including, but not limited to, the proposed construction sequence, grading and excavation details, erosion and sediment control features needed for wetland construction and long-term survival, a planting plan specifying plant species, quantities, locations, size, spacing, and density; source of plant materials, propagules, or seeds; water and nutrient requirements for planting; where appropriate, measures to protect plants from predation; irrigation requirements; specification of substrate stockpiling techniques and planting instructions; descriptions of water control structures and water-level maintenance practices needed to achieve the necessary hydrocycle/hydroperiod characteristics;

These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, and topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or the anticipated final outcome. The plan shall provide for elevations which are appropriate for the desired habitat type(s) and which provide sufficient tidal prism and circulation data. The scaled plan sheets for the compensatory mitigation must contain, at a minimum:

1. Existing wetland and buffer boundaries, proposed areas of wetland and/or buffer impacts, location of proposed wetland and/or buffer compensation actions;
2. Approximated site topography before and after alteration at one-foot contour intervals in the zone of the proposed compensation actions if any grading activity is proposed to create the compensation area(s).
3. A planting plan prepared by a wetland specialist including plant selection, planting densities, placement, planting instructions, water and nutrient requirements, and provision for an irrigation system, if necessary, until plants are established.
- D. Construction Monitoring. The wetland scientist who designed the mitigation project shall be on-site to provide construction oversight as warranted to ensure that the project is constructed as designed.
- E. As-built. Upon completion of construction for the wetland mitigation project, the applicant shall submit an as-built report to the county for review and approval.
- F. Budget. A detailed budget for implementing the mitigation plans, including construction, monitoring, maintenance, and contingency phases shall be submitted.
- G. Surety. A surety estimate for the entire compensatory mitigation including the following elements: site preparation, plant materials, construction materials, installation oversight, maintenance twice/year for up to five years, annual monitoring field work and reporting, and contingency actions for a maximum of the total required number of years for monitoring. Separate estimates shall be prepared for the installation phase and monitoring and maintenance phase of the project; a surety consistent with Chapter 24.70 TCC is required for the duration of the monitoring period.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

Existing Nonconforming Uses, Structures and Lots (Chapter 24.50 TCC)

24.50.010 Purpose.

The purpose of this chapter is to establish provisions governing the development and redevelopment of existing uses, structures and lots affected by critical areas that do not conform to this title. Other requirements in the Thurston County Code and/or state/federal law may also apply that further restrict development of nonconforming uses, structures, and lots.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §N), 12-17-2013)

24.50.020 Alteration or expansion of legally established nonconforming structures—General rules.

Alteration or expansion of legally established nonconforming structures or uses, including structures or uses that do not require a permit, is allowed subject to all of the following:

- A. **Maintenance.** All legally established, nonconforming structures can be maintained (e.g., painting and repairs);
- B. **Alteration.** Legally established nonconforming structures may be altered within their existing building footprint. Additionally, attached decks, porches, and patios may be altered in their existing footprint, excluding the addition of permanent roof structures. If applicable, also see Chapter 24.20 TCC regarding limitations in frequently flooded areas. Legally established, attached nonconforming decks, porches, or patios shall not be enclosed for use as livable space, unless the deck, porch, or patio is already covered by an existing permanent roof structure as determined by the approval authority;
- C. **Expansion of conforming portions of a legally established nonconforming structure.** If only a portion of the structure is nonconforming (e.g., lies within an important habitat area), expansion of the conforming portion of the structure is permitted provided the expansion does not extend into the critical area or associated buffer; and
- D. **Vertical Additions.** Expansion of the established nonconforming portion of the structure is prohibited, except for vertical additions consistent with applicable height regulations in the zoning district. Additions shall not be cantilevered to extend beyond the existing structure's footprint (outside wall at the foundation) into a critical area or associated buffer. Vertical additions to legally established portions of a nonconforming structure are only allowed within marine bluff or landslide hazard areas, or their buffers, if a geological assessment demonstrates that it will not negatively impact slope stability.
- E. **Cantilevered alterations, expansions or additions to nonconforming portions of structures shall not extend beyond the existing building footprint into the critical area or its associated buffer.**

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §O), 12-17-2013)

24.50.025 Expansion of impervious surfaces in riparian areas and pond buffers.

The approval authority may allow up to a five hundred square foot expansion of impervious surface, including an existing structure's footprint, within a riparian habitat area or pond buffer if it is determined that:

- A. All new impervious surfaces, which include structures, will be sited at a distance that is greater than or equal to the original structure(s) setback from the water body;

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- B. The expansion would occur at least one hundred feet from a Type "S" or "F" stream and Type "N" stream draining to a Type "S" or "F" stream or marine waters;
- C. The area proposed for the expansion was lawfully developed prior to July 24, 2012 or, if not, the unlawful development was not caused by the present landowner or did not occur within the past seven years;
- D. If the riparian habitat area or pond buffer on the site between the water body and the primary structure has been degraded, the degraded area, or a portion of the degraded area equal to the size of the expansion, whichever is less, will be restored with native vegetation. The degraded area chosen must be the area nearest the most sensitive habitat as determined by the approval authority;
- E. The expansion, coupled with any proposed mitigation, would be at least as effective in protecting all of the riparian habitat or pond buffer's functions as under current conditions;
- F. The proposed expansion would be consistent with the shoreline master program for the Thurston Region, as amended, the impervious surface limits in the applicable zoning district, and other applicable provisions of this title;
- G. The applicant provides a performance surety consistent with Chapter 24.70 TCC to ensure survival or replacement of plants used in the restoration;
- H. No previous expansion has been allowed pursuant to this subsection; and
- I. The applicant will record a document with the subject property's title indicating that no further expansion of the structure's footprint or impervious surface is allowed within the riparian habitat area or pond buffer on the property.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §P), 12-17-2013)

24.50.030 Alteration, expansion, repair, and maintenance—Frequently flooded areas.

Repair, maintenance, alteration, or expansion of a lawfully established nonconforming structure in frequently flooded areas shall only be allowed in the one-hundred-year floodplain, channel migration hazard area, or a high groundwater hazard area no development zone (NDZ) when consistent with all of the following:

- A. **Alteration Within Existing Footprint.** Alteration, repair, and maintenance of a legally established nonconforming structure are allowed within the existing building footprint (outside wall at the foundation) including attached decks, porches, and patios. However, within the floodway, repair, maintenance, alteration, expansion or improvements to a structure shall not increase the ground floor area, and the cost of repairs shall not exceed fifty percent of the structure's market value as determined by an accredited appraisal or the Assessor's valuation, at the owner's option. The value shall be determined based on the value of the structure either before the repair, maintenance, alternation, or expansion is started, or if the structure has been damaged, and is being restored, before the damage occurred. Work done on structures to comply with existing health, sanitary or safety codes or to structures identified as historic buildings is not subject to the value limit above. The cumulative value of all past known alterations, repairs, and expansions conducted on or after July 24, 2012, shall be included when determining the cost of a proposed project;

- B. Vertical Addition. Expansion of the nonconforming portion of a structure (i.e., the portion of the structure in the critical area) is prohibited with the exception of vertical additions consistent with applicable height regulations in the zoning district and the value limits specified in subsection "A" of this section. However, such additions shall not be cantilevered to extend beyond the existing structure's footprint into a flood or channel migration hazard area;
- C. Enclosing Decks, Porches, and Patios. Enclosing legally established nonconforming decks, porches, or patios for use as livable space is not permitted, unless the deck, porch, or patio is already covered by an existing, permitted, permanent roof structure, as determined by the approval authority consistent with the value limits specified in subsection "A" of this section; and
- D. Expansion of Conforming Portions of the Structure. If only a portion of the structure is nonconforming, expansion of the conforming portion of the structure is permitted provided the expansion does not extend into the critical area consistent with Chapter 14.38 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §Q), 12-17-2013)

24.50.035 Intensification.

An intensification of a legally established nonconforming use is permitted provided that it is consistent with all of the following:

- A. The use is contained within the existing or expanded (per this title for nonconforming structures and uses) structure, or an area that has been legally used to accommodate the use;
- B. It is not different in kind from the legally existing nonconforming use; and it would not cause increased harm to the critical area, or increase the risk associated with the hazard, as determined by the approval authority;
- C. Intensification of a legally established nonconforming use shall not exacerbate flood or channel migration hazards, or pose an increased risk of water contamination in the event the site is inundated with flood waters, as determined by the approval authority;
- D. Intensification of legally established nonconforming uses shall not increase the net amount of impervious surface within a critical area and its associated buffer; and
- E. The approval authority may require use of best management practices to avoid potential impacts associated with the more intensive use.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §R), 12-17-2013)

24.50.040 Destruction and restoration.

Restoration or rebuilding of legally established nonconforming structures and/or related appurtenances damaged or destroyed by accident, fire, explosion, act of God, or public enemy may be allowed pursuant to the applicable requirements of this chapter, and the shoreline master program for the Thurston Region, as amended, provided that:

- A. Restoration or replacement of legally established nonconforming structures and/or related appurtenances shall not be allowed in the floodway;

- B. The structure may be restored or rebuilt in a nonconforming manner to the same extent (e.g., building footprint, impervious surface and square footage) that, but no more than, the pre-existing structure was nonconforming, as determined by the approval authority, unless the nonconforming structure is located in a one-hundred-year floodplain, one-hundred-year channel migration hazard area, or high groundwater flood hazard area NDZ, where restoration or reconstruction of a nonconforming structure is only permitted in accordance with Chapter 14.38 TCC. The cumulative value of all past known restorations or replacements conducted on or after July 24, 2012, shall be included when determining the cost of a proposed project;
- C. The building permit application for repair or reconstruction shall be submitted within twenty-four months of the occurrence of damage or destruction;
- D. The building or structure is not voluntarily destroyed; and
- E. If the building or structure is proposed to be relocated from the original building site, then the original building site and other degraded areas immediately adjacent to the building site shall be restored with native vegetation as a condition of the relocation, as required by the approval authority. Important wildlife habitats and areas regulated by the shoreline master program, as amended, may have additional vegetation requirements.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §S), 12-17-2013)

24.50.050 Discretionary replacement or relocation of nonconforming structures.

Discretionary replacement of legally established nonconforming structures and/or related appurtenances may be allowed pursuant to the applicable requirements of this chapter, and the shoreline master program for the Thurston Region, as amended, provided that:

- A. Discretionary replacement of legally established nonconforming structures within frequently flooded areas, one-hundred-year channel migration hazard areas, and high groundwater flood hazard area NDZ is prohibited;
- B. There is no alternative outside of the critical area and associated buffer, or there is not minimally sufficient buildable area (not to exceed three thousand five hundred square feet) on the property outside the critical area and associated buffer to accommodate the building/structure, as determined by the approval authority;
- C. The replacement of a nonconforming structure and/or related appurtenances shall be prohibited if located within the shoreline management jurisdiction, unless otherwise permitted by the shoreline master program, as amended;
- D. If there is no alternative location outside of the critical area and associated buffer to accommodate the structure, then replacement/relocation would occur consistent with this section and provisions for the development of existing lots in TCC Section 24.50.060 and TCC Section 24.50.065, if applicable;
- E. When possible and practical, driveways, patios, and walkways located within a critical area buffer shall be made of pervious materials and roof top runoff shall be dispersed and directed into bioretention facilities. See Chapter 15.05 TCC for additional requirements. In geologic hazard areas, the approval authority may require stormwater to be treated, tight lined and/or infiltrated, as warranted, to avoid destabilizing a slope or bluff (See TCC Section 24.15.170); and

- F. If a structure is relocated, the original building site and other degraded habitat immediately adjacent to the original building site shall be restored. The applicant shall submit a restoration plan that employs native trees and vegetation. The applicant shall provide a performance surety consistent with Chapter 24.70 TCC to insure that the vegetation used in the restoration project survives or is replaced.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §T), 12-17-2013)

24.50.060 Development of existing lots—Critical areas excluding frequently flooded areas.

Existing lots with critical areas and their associated buffers, excluding frequently flooded areas, for which a complete application for a short plat, large lot subdivision, or subdivision, as defined in Chapter 18.08 TCC, was submitted before July 24, 2012, and other legally existing lots may be developed as follows with a critical area review permit:

- A. Except for seismic, volcanic, and mine hazard areas, all new construction of structures, facilities, utilities, access driveways and appurtenances shall be located outside of the critical area and the associated buffer unless otherwise permitted in this title;
- B. New development may be permitted on legal lots containing wetlands or buffers, consistent with other applicable provisions of this title.
- C. No new development or construction of structures, facilities, utilities, access driveways and appurtenances shall create a public safety risk, as determined by the approval authority;
- D. Enhancement or restoration (mitigation) of the affected critical area or associated buffer shall be required to offset the impacts of the proposed development, as approved by the approval authority;
- E. If a legal lot has less than three thousand five hundred square feet of buildable area outside of the critical area and its associated buffer, to accommodate the single family residential development including the primary structure, ordinary appurtenances, landscaping, and accessory structures, the approval authority may, with a critical area review permit, allow development to occupy a portion of the critical area buffer to the minimum extent necessary to provide a development site totaling no more than three thousand five hundred square feet provided:
1. The development site shall be located in the outer fifty percent of the standard critical area buffer, except for wetlands and riparian habitat areas, where the development site shall be located in the outer twenty-five percent of the standard buffer. Development in the critical area and the inner fifty percent of the associated critical area buffer—or inner seventy-five percent of wetland and riparian area buffers—will require a reasonable use exception;
 2. The applicant shall demonstrate that due to physical constraints (e.g., topography, soil conditions, or the site's configuration), another configuration would not allow the development to occur without intrusion or with less intrusion into the critical area or buffer than the proposal;
 3. The location and scale of existing development on surrounding properties shall not be the basis for granting or determining the location, scale and impact of a single family use allowed under this section;

4. The encroachment into the critical area buffer shall be consistent with other requirements of this section for development on existing lots, requirements for a critical area review permit, and shall not have an adverse impact on species of concern, as determined by the approval authority;
 5. Site development, including clearing, grading, construction of structures, utilities, related appurtenances, and landscaping shall occupy the minimum area necessary to accommodate the use;
 6. Native tree and vegetation removal shall only be permitted to the minimum extent necessary to accommodate the proposed development, and shall not create a public safety risk;
 7. A revegetation plan consistent with this title for disturbed areas shall be submitted with the development application, and shall be completed prior to final occupancy or use;
 8. Landscaping shall not extend more than fifteen feet from the primary structure toward the important habitat or wetland;
 9. Any new structures within a critical area buffer shall be sited to avoid the creation of hazard trees;
 10. The approval authority may establish a construction setback to avoid encroachment into portions of the buffer not authorized for development, consistent with TCC Section 24.01.030;
 11. The approval authority may authorize use of additional area to the minimum extent necessary in a critical area buffer to accommodate an onsite sewage disposal system or well, consistent with other requirements of this title, only if there is no alternative;
 12. The use of this single-family residential exception shall not be a result of a self-created hardship such as subdividing the property, adjusting a boundary line, or other actions thereby creating the undevelopable conditions after July 24, 2012, or a self-created hardship created under the applicable standards of Chapter 17.15 TCC after February 1, 1994; and
- F. All other development or construction of primary structures, accessory structures, and appurtenances in the critical area and associated buffer is prohibited.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §U), 12-17-2013)

24.50.065 Development of existing lots—Frequently flooded areas.

Existing, undeveloped lots within one-hundred-year channel migration hazard areas, frequently flooded areas and their associated buffers, for which a complete application for a short plat, large lot subdivision, or subdivision, as defined in Chapter 18.08 TCC, was submitted before July 24, 2012 and other legally existing lots may be developed as follows:

- A. All new structures, facilities, utilities and appurtenances shall be located out of the one-hundred-year floodplain and area that falls below the base flood elevation;
- B. All new nonresidential structures, facilities, utilities and appurtenances shall be located out of the high groundwater flood hazard area;

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- C. No new construction of structures, facilities, utilities and appurtenances shall create a public safety risk, as determined by the approval authority, and new construction shall be consistent with Chapter 14.38 TCC; and
- D. Construction of structures, utilities and appurtenances located in the high groundwater hazard area restricted development zone shall meet the following:
 - 1. All new residential structures shall be constructed to have the lowest floor, materials, and systems susceptible to flood damage, including mechanical support systems, located a minimum of two vertical feet above the base flood elevation;
 - 2. All new non-residential construction shall be elevated a minimum of two vertical feet above the base flood elevation; and
 - 3. Structures shall be located where they are least likely to be flooded.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §V), 12-17-2013)

24.50.070 Replacement of mobile or manufactured home—Discretionary.

A mobile or manufactured home with nonconforming placement may be replaced with a new or improved manufactured home subject to applicable county regulations. However, if the size of the structure is increased by more than six hundred square feet, it shall conform to TCC Section 24.50.050. Mobile or manufactured homes may only be increased in size once pursuant to this section.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E, §W), 12-17-2013)

11. Subdivision in Critical Areas (Chapter 24.55 TCC)

24.55.010 Generally.

The subdivision of land with designated critical areas, including but not limited to subdivisions, short plats, large lot subdivisions, binding site plans, and conservation lots, requires careful consideration to meet the purposes of this title in addition to other requirements of the Thurston County Code. Some areas may be deemed ineligible for subdivision and others eligible.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.020 Areas not eligible for subdivision.

Lots that are located wholly within a critical area or associated buffer shall not be subdivided, except as otherwise provided for TCC 24.55.030 or in this title. Assessor's plat maps under Chapter 58.18 RCW are not permitted unless it can be demonstrated that enough area exists to permit building sites, structures, and uses that conform to this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.030 Areas eligible for subdivision.

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Parcels that are located wholly within critical aquifer recharge areas, erosion hazard areas, volcanic hazard areas, mine hazard areas, seismic hazard areas or partially within other critical areas and associated buffers, may be divided provided the applicant demonstrates all of the following:

- A. A contiguous portion of each proposed lot is located outside of the critical area, hazard area or associated buffer that is of sufficient size and configuration to contain all structures and all related appurtenances associated with the allowed use. Sufficient size means the minimum required by the environmental health division for an on-site sewage disposal system. If the lot will be served by sewer, it shall be at least five thousand square feet or the minimum lot size, if less than five thousand square feet;
- B. The proposed lots shall be accessible by a legally existing road or a proposed road located outside of critical areas or hazard areas, or as otherwise provided for by this title;
- C. If sewer does not serve the site, the proposed lots must also have a suitable sewage disposal system location and a reserve drainfield location outside of the buffer;
- D. Where possible, subdivisions must be able to be designed to maintain adequate habitat connectivity, as determined by the review authority; and
- E. Also see requirements for critical area tracts and easements (Chapter 24.65 TCC).

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.040 Minimize risk of damage.

All subdivisions shall be designed in accordance with Chapter 14.38 TCC and located to minimize flood damage without new structural flood protection (structural flood protection may include but is not limited to floodwalls, berms or levees) and shall not exacerbate geologic hazards.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.050 Utilities.

All subdivision of land under this title shall provide for the location and construction of public utilities and facilities, such as sewer, gas, electrical and water systems, in a manner that eliminates or, where that is not possible, minimizes potential for flood damage, consistent with Chapter 14.38 TCC, and avoids adverse impacts to critical areas and their associated buffers.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.060 Plat map.

See TCC 18.10.050, Contents of application, and TCC 18.16.020, Specific requirements. Base flood elevation data and other critical areas and associated buffers shall be identified on the preliminary and final plat maps of land by a licensed engineer or surveyor. A note shall be placed on the plat identifying any use restrictions on individual lots required pursuant to the Thurston County Critical Areas Ordinance (Title 24 TCC) and indicating that future development may be subject to review for compliance with Chapter 14.38 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.070 Practices for the use of pesticides to protect critical areas.

Residents of subdivisions with more than eight lots and that have critical areas within the subdivision boundaries shall be required to use integrated pest management practices for pest control to protect critical areas and their species. The requirement to use integrated pest management shall be noted on the plat and the title of all lots. As a condition of subdivision approval, the applicant shall provide educational materials pertaining to Integrated Pest Management to each initial home owner in the subdivision.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.55.080 Landscaping maintenance to protect critical areas.

Washington State University Extension Office best management practices (BMP), Thurston County BMPs or other BMPs accepted by the approval authority shall be used for fertilizing landscaping, and managing weeds near or adjacent to critical areas.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

12. Critical Areas Signs and Fencing (Chapter 24.60 TCC)

24.60.010 Generally.

To further the purposes and requirements of this title for protecting critical areas, signs and fencing may be necessary to mark the boundaries of certain designated critical areas. The purpose of critical areas signage and fencing is to note the location of the designated critical area and inform the general public and private land owners about wetlands, fish and wildlife habitat conservation areas, and special hazards designated as critical areas in this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.60.020 Allowed signage.

Within wetlands, fish and wildlife habitat conservation areas and their associated buffers, signs shall be limited to interpretive signage approved by the approval authority, street signs within rights-of-way, critical area identification signs, and survey markers and monuments. (Also see the signage requirements for the applicable zoning district.)

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.60.030 Required signage.

Within wetlands, fish and wildlife habitat conservation areas, landslide hazard areas, marine bluffs and their associated buffers, signs are required as a condition of any permit or authorization issued pursuant to this chapter. Signs and their locations shall be inspected by the director, or designee, prior to commencement of any permitted activity. The applicant shall be required to install permanent signs along the boundary of a critical area tract, delineated critical area, or along the edge of the buffer. Permanent signs shall consist of an enamel-coated metal face attached to a metal post or another non-treated material of equal durability. The signs shall be worded as follows or with alternative language approved by the approval authority.

(Critical Area)

Do Not Disturb

Contact the Thurston County Resource Stewardship Department

Regarding Uses and Restrictions

These signs shall be located at the point where lot lines intersect with the buffer, at corners where the buffer makes a change of direction, and not less than every three hundred feet. The approval authority may allow the signage to be at larger intervals when the sign would be visible from an adjacent sign and installation of a sign at a shorter distance would interfere with reasonable use of the property. The property owner shall maintain the signs.

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

24.60.040 Fencing—Wetlands and geologic hazard areas.

- A. Design. Fences shall be designed and placed to minimize impacts to wetlands, geologic hazard areas, wildlife habitat, and wildlife travel. The fence type and height shall be subject to county approval unless superseded by federal or state approvals.
- B. Fencing the Perimeter of the Buffer. Fences are permitted along the outer boundary of the wetland buffer and geologic hazard area buffer.
- C. Fencing Within the Buffer. Fencing shall not encroach into wetlands, marine hazard areas or buffers except along the perimeter of lawful development within the wetland or buffer. The approval authority may allow fencing along property lines within the wetland, marine bluff hazard areas, and associated buffers only if it would protect wetland and marine bluff functions as determined through review of a critical area permit.
- D. Required Fencing/Thorny Shrubs. The approval authority shall require permanent fencing to be placed along the outer boundary of the critical area buffer if it is determined that a proposed use adjoining the buffer poses a threat to the critical area and buffer functions, or there is a public safety issue (e.g., when livestock or people would otherwise enter and damage the area or disturb sensitive wildlife or areas or there is an unstable geologic area). If the approval authority determines that it would better protect wetland and buffer functions, planting of densely spaced, noninvasive, thorny shrubs to restrict access to the buffer may be required, rather than fencing.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.60.050 Fencing—Habitat area or buffer.

- A. Fencing the Perimeter of the Habitat Area/Buffer. Fences are permitted along the outer boundary of the important habitat area, unless a buffer is required. In that case, the fence may only be located along the perimeter of the buffer, except as provided for by subsection (B) below.
- B. Fencing Within the Buffer. Fencing may encroach into the important habitat area along the perimeter of lawful development within the important habitat area and buffer. The approval authority may allow fencing along property lines within the important habitat areas only if it would protect habitat functions.

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- C. Design. Fences shall be designed and placed to minimize impacts to wildlife habitat, wildlife, and wildlife travel. The fence type and height shall be subject to county approval unless superseded by federal or state approvals. Signs identifying the important habitat area shall be attached to such fencing consistent with this chapter.
- D. Required Fencing/Thorny Shrubs. The approval authority shall require permanent fencing to be placed along the outer boundary of the important habitat or the boundary of legally established development within the important habitat area if s/he determines that a proposed use adjoining the important habitat area poses a threat to the important habitat area (e.g., when livestock or people would otherwise enter and damage the habitat area or disturb sensitive wildlife). If the approval authority determines that it would better protect habitat functions, s/he may require planting of densely spaced, noninvasive, thorny shrubs to restrict access to the habitat/buffer, rather than fencing.

Figure 24.60-1. Buffer Sign Example



(Ord. No. 14773, § 3(Att. B), 7-24-2012)

13. Critical Area Tracts and Delineations (Chapter 24.65 TCC)

24.65.010 Conservation lots—Generally.

Critical area tracts and delineations allow for conservation of sensitive habitat areas and for ensuring that hazardous areas are not developed with incompatible uses. These shall also include conservation lots exempted under title 18 TCC.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.65.020 When required.

- A. Applicants for cluster developments, subdivisions under Title 18 TCC, and binding site plans shall create one or more critical area tracts containing all critical areas and associated buffers on the property proposed for development. The tract(s) shall be on a separate lot(s) owned in common by all of the owners of the separate lots within the development, delineated on the face of the applicable plat map or binding site plan, and identified as critical areas. Critical areas one thousand square feet or less that are not adjacent to or functionally connected to another critical area may be delineated on the applicable map or binding site plan rather than a tract, as determined by the director.
- B. Applicants for short plats and large lot subdivisions under Title 18 TCC, and development proposals subject to site plan review, special use, and other reviews not otherwise addressed in subsection (A) above, shall establish one or more delineated areas containing all critical areas and their associated buffers on the property under development. The critical areas and their buffers shall be delineated on the face of the applicable plat map, and identified as critical areas. The director may waive this requirement for non-jurisdictional critical areas one thousand square feet or less if it is shown that the critical area is not adjacent to or functionally connected to another critical area, or can be adequately protected through other methods consistent with this title, as determined by the director.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.65.030 Maintenance.

Critical areas and their buffers contained in separate tracts and delineated areas on maps shall be maintained in their existing condition, except as provided for by this title.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.65.040 Recordation of restrictions and notices.

- A. The following note shall appear on the face of all plats, short plats, large lot subdivisions, binding site plans, maps, or lots created to protect critical areas as part of a cluster development containing critical area tracts, critical area easements, delineation areas, lots containing critical areas, conservation areas, or conservation lots:

"Critical area tracts, critical areas and their buffers, or conservation lots containing critical areas and/or associated buffers shall not be altered except as provided for under the Critical Areas Ordinance (Title 24 of the Thurston County Code). The owner(s) of a critical area tract or lot containing critical areas and/or associated buffers is responsible for ensuring that no alterations occur within such tract or lot and that all vegetation remains undisturbed unless the Thurston

County Resource Stewardship Department provides express written authorization for such alteration."

- B. A map shall be recorded depicting critical area delineations created through a site plan review permit, variance permit, special use permit, or approved site plans where critical areas may be impacted, with the following note appearing of the face of the map:

"Critical areas and/or associated buffers shall not be altered except as provided for under the Critical Areas Ordinance (Title 24 of the Thurston County Code). The owner(s) of a tract or lot containing critical areas and their associated buffers is responsible for ensuring that no alterations occur within such tract or lot and that all vegetation remains undisturbed unless the Thurston County Resource Stewardship Department provides express written authorization for such alteration."

- C. A restriction shall be recorded on the title of all critical area tracts and lots containing critical area easements created pursuant to this chapter. The restriction language shall be substantially similar to the following:

"Prior to and during the course of any grading, building construction or other development activity on a lot or development site containing or abutting a critical area and/or associated buffer or conservation area, the area of development activity must be fenced or otherwise marked to the satisfaction of the Thurston County Resource Stewardship Department. The critical area shall be maintained in its existing condition, except as provided for by Title 24 of the Thurston County Code, the Critical Areas Ordinance. Yard waste, debris, fill, equipment, vehicles, and materials shall not be placed within a critical area tract or delineated critical area and associated buffer."

(Ord. No. 14773, § 3(Att. B), 7-24-2012; Ord. No. 14961, § 5(Att. E), 12-17-2013)

14. Surety Agreements and Bonds (Chapter 24.70 TCC)

24.70.010 Purpose.

The purpose of this chapter is to establish financial surety requirements for (1) the installment of improvements required by this title to mitigate impacts to critical areas or associated buffers or to restore such area, and (2) to ensure the replacement or repair of such improvements which are damaged during development or over a time specified by the approval authority or hearing examiner as a condition of permit approval.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.020 Surety agreement in lieu of completion of permit approval requirements.

- A. Installation.
1. The property owner, applicant, or legal designee, shall install improvements as required by the approval authority as a condition of permit approval under this title and replace any such improvements damaged during development prior to final approval for occupancy and/or use; or

2. If the required improvements are not installed prior to final approval for occupancy and/or use, the property owner, applicant, or legal designee, shall execute and file with the county a surety agreement guaranteeing and covering the completion of such improvements within a time specified by the approval authority. In no case shall final approval for occupancy and/or use be allowed by the approval authority if improvements remain uninstalled that constitute a hazard to public health and safety as determined by the approval authority.
- B. The property owner, applicant, or legal designee, shall execute and file with the county a surety agreement guaranteeing and covering the construction, installation, and monitoring of such improvements together with a reasonable amount to cover possible needed replacements or repairs for a time specified by the approval authority as a condition of permit approval.
- C. The director may approve such agreements made under this chapter.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.030 Exception.

If the county agrees, by action of the board of county commissioners, to accept the obligation for maintenance or monitoring of the improvements, then the property owner, applicant, or legal designee's obligation to perform maintenance or monitoring functions shall terminate.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.040 Amounts for surety agreements.

- A. Surety agreements required under this chapter for installation of improvements shall be an amount equal to one hundred twenty-five percent of the fair market cost of installation, including materials and labor.
- B. Surety agreements required under this chapter for monitoring such improvements required by this title shall be an amount equal to one hundred twenty-five percent of the cost of monitoring.
- C. Surety agreements required under this chapter for maintenance and repair of such improvements required by this title shall be an amount equal to one hundred twenty-five percent of the cost of installation, including materials and labor.
- D. Amounts required for the various surety agreements under this chapter shall be calculated separately.
- E. The amount of the surety agreement or bond shall not be accepted by the county if the review authority determines that it will be inadequate to cover the costs related to fulfillment of the conditions of approval for the permit.
- F. The approval authority may utilize various methods to calculate the amount necessary for the surety agreement to fulfill the requirements of the permit approval or mitigation plan. The property owner, applicant, or designee shall submit to the approval authority receipts, contractor bids/estimates, or other documentation that establishes the cost.

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- G. Such agreement shall not relieve the property owner or designee of liability for the substandard or defective condition of any required improvements discovered following the effective term of the surety or bond.
- H. If costs incurred are related to issues or circumstances undiscovered or undisclosed at the time the surety agreement is accepted by the county, the property owner or applicant shall be responsible for all additional costs.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.060 Forms of surety agreement.

The property owner, applicant, or designee shall include with the agreement set forth in this chapter one or more of the following at the discretion of the approval authority:

- A. A surety bond executed by a surety company authorized to transact business in the State of Washington on a form approved by the prosecuting attorney;
- B. Cash, deposited with the Thurston County treasurer;
- C. A letter of credit or irrevocable assignment of savings executed by a financial institution stating that the money is held for the stated purpose of the installation, monitoring, and/or maintenance and repair.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.070 Forfeiture of surety.

If the property owner, applicant or designee fails to complete all required work within the period specified, including any approved extensions of time by the approval authority, the county may take steps to demand performance of said obligations within a reasonable time not to exceed ninety days from the date of demand. If the required improvements are not substantially completed within that time, the county may take action to forfeit the financial surety. The county shall be entitled to recover all costs taking of such action, including reasonable attorney fees. The county shall use the financial surety to complete the required improvements and pay the costs incurred. Should the proceeds of the financial security be insufficient for completion of the work and payment of the costs, the county shall be entitled to recover the deficiency from the property owner, applicant, or designee.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.70.080 Release of surety.

- A. The surety agreement shall specify that the surety cannot be terminated or cancelled without written release by the approval authority. The approval authority shall release all or part of the unexpended portion of the surety, as appropriate, upon determining that activities subject to the surety agreement or bond have been completed in compliance with the terms and conditions of the permit and the requirements of this title.
- B. Surety agreements for monitoring of such improvements together with any needed replacements or repairs as required under this title shall not be fully released for at least three years, five years for wetlands, following final acceptance of the improvements by the approval authority.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

15. Emergency Authorization (Chapter 24.90 TCC)

24.90.020 Emergencies.

Activities within critical areas by public agencies and utility companies to protect public health or safety in response to an emergency may proceed prior to county authorization. However, such actions are subject to TCC 24.90.050.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.90.040 Temporary authorization in lieu of critical areas permit.

For emergency situations other than in TCC 24.90.020, the approval authority may issue temporary emergency authorization for an activity otherwise requiring a critical area permit (CAP) to respond to an emergency in a critical area or associated buffer if it is determined that:

- A. One or more of the following would likely occur if emergency authorization were not granted:
 - 1. Loss of human life; or
 - 2. Imminent loss or damage of primary structures, such as dwellings and places of business, and structures significant to the continuation of a legally established business, including barns. This does not include minor accessory structures, such as but not limited to tool and equipment sheds; potting sheds; dog houses; tree houses; or
 - 3. Imminent loss or damage of public roads; sole access private roads; bridges; septic systems; wells; or other essential facilities, as determined by the approval authority; or
 - 4. Imminent significant environmental degradation (e.g., a structure at risk of flooding containing hazardous materials that pose a contamination hazard); or
 - 5. Imminent loss or damage to high value wildlife habitat, such as wetlands associated with streams; and
- B. The anticipated loss or impact listed above is likely to occur before a CAP can be issued or modified under the procedures otherwise required by this chapter and other applicable laws; and
- C. The authorized activities are the minimum necessary to alleviate the emergency, as determined by the approval authority.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.90.050 Standards during emergencies.

Any emergency activity shall incorporate, to the greatest extent practicable and feasible, but not inconsistent with the emergency situation, the standards and criteria required for nonemergency activities under this title and shall:

Planning Commission Public Hearing Draft
August 10, 2021

- A. Be limited in duration to the time required to complete the emergency activity, not to exceed ninety days;
- B. Require the restoration of any affected critical area and associated buffer altered as a result of the emergency activity within this ninety-day period, except when the approval authority determines that more time will be needed, based on a written request from the responsible party; and
- C. Avoid impacts to adjacent properties.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.90.060 Permits required.

Within thirty days following the emergency action, the property owner/responsible party shall apply for all required permits and approvals required under this chapter for nonemergency action. The issuance of an emergency authorization by the county does not preclude the necessity to obtain any necessary approvals from appropriate federal and state authorities.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

24.90.070 Termination.

The emergency authorization may be terminated at any time without prior notice upon determination by the approval authority that the action did not or does not meet the requirements of TCC 24.90.040.

(Ord. No. 14773, § 3(Att. B), 7-24-2012)

**STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE
HABITAT PROGRAM**

DATE: June 15, 2017

TO: Region 4 and 6 Habitat Program Staff
Science Division Staff
Protection Division Staff

SUBJECT: **NEW GUIDANCE REGARDING HYDRAULIC PROJECT APPROVAL (HPA)
PROVISIONS FOR THE PROTECTION OF INTERTIDAL FORAGE FISH SPAWNING
BEDS**

WDFW has adopted a new standard for documenting surf smelt spawning beds. This email is a follow-up to Phill Dionne's email dated March 28, 2017. The new standard extends the length of a documented surf smelt bed from the current 305 m to 1267 m. When surf smelt eggs are observed within a 30 m sampling transect, the length of documented surf smelt spawning bed now extends in both directions from the center of the transect up to a distance of 634 m (1267 m total) or until there is a change in beach type (bed materials) based on Washington Department of Natural Resources ShoreZone inventory data. As a result of this change, the total length of currently-documented surf smelt spawning beds throughout Puget Sound increased from 517 kilometers to 1063 kilometers. The spawning location map will be updated next week to show this change; we will notify you by email when the change is completed.

Documented Surf Smelt Spawning Beds

There is no change to how HPAs are provisioned for work on documented surf smelt spawning beds. Currently, the presence of a documented surf smelt spawning bed can restrict project type, design, and timing. This has not changed. The construction of a new shoreline armoring structure or expansion of an existing structure that will result in a loss of documented surf smelt spawning beach should still be processed under RCW 77.55.021 instead of RCW 77.55.141. In addition, the authorized work times (WAC 220-660-330(3)(e)) are not changing and a survey option (WAC 220-660-330(3)(f)) is still available in nine of the thirteen tidal reference areas where the surf smelt spawning period is six months or longer. Habitat biologists should include timing constraints in HPAs to protect newly documented surf smelt spawning habitat (assuming the habitat is suitable for spawning).

Pacific Sand Lance Spawning Beds

Current science doesn't support a change to the length of a documented sand lance spawning bed. The current length of 305 m for a sand lance spawning bed remains in effect.

Job sites “adjacent to” intertidal forage fish spawning beds

The new science does not support requiring a survey or timing provisions for work occurring on beaches adjacent to the newly expanded documented surf smelt spawning beds. As a result, you should use WAC 220-660-070(1)(h) to vary from WAC 220-660-330(3)(h).

We are investigating to confirm the appropriate permanent sand lance adjacency requirements that reflect the current scientific data. In the interim, a beach bordering a documented sand lance spawning beach should be considered “adjacent” if the beach is within 634 m (2080 ft.) of the mid-point of the documented beach and the beach has similar bed materials to the documented beach. For projects “adjacent to” documented sand lance spawning beds, habitat biologists should allow an intertidal forage fish spawn survey option. Biologists should include the following provisions in the HPA:

- i. “The project location is adjacent to a documented Pacific sand lance intertidal spawning beach. If you plan to work on the beach between *month/day* through *month/day*, you must contact a biologist trained by the Department of Fish and Wildlife to arrange an intertidal forage fish spawning beach survey. The biologist must follow the department-approved protocol and use the standard department data sheets when conducting the survey. If the biologist does not observe sand lance eggs during a beach survey, work must begin within seventy-two hours of survey. If sand lance eggs are found, work cannot begin until a subsequent survey shows there are no eggs on the beach.” **Note: The date will likely be October 15 to December 31 and January 1 to February 28 of any year; however, you may need to adjust this date if authorized work times for other fish species at the project location don’t coincide with the sand lance work time.**
- ii. The biologist must submit the completed intertidal forage fish spawning beach survey data sheets within seventy-two hours of completing the survey to WDFW by e-mail at HPAapplications@dfw.wa.gov; mail to Post Office Box 43234, Olympia, Washington 98504-3234; or fax to (360) 902-2946. In addition, the biologist must preserve the winnowed portion of the sediment samples and retain them for a minimum of four weeks. The sediment samples must be provided to WDFW staff upon request. The list of trained biologists, the approved protocol and data sheets are available on the department's web site.”

Questions

Contact your supervisor or Randi Thurston by email at randi.thurston@dfw.wa.gov or by phone at 360-902-2602 if you have questions. Thank you

A3

From: [Jackson, Jessica](#)
To: [Andrew Deffobis](#)
Subject: PSE Comments for the Thurston County SMP Update
Date: Wednesday, October 20, 2021 3:44:27 PM
Attachments: [image001.png](#)
[TCSMPCCommentLetter_PSE.pdf](#)

Hi Andy,

Please find PSE comment letter for the 2021 SMP Update attached. Happy to discuss anything further. Have a great meeting tonight!

Jessica Jackson (she/her)
Municipal Land Planner
PUGET SOUND ENERGY
425-457-5751
425-223-1745
PO Box 97034 EST04W
Bellevue, WA 98009-9734





Puget Sound Energy
P.O. Box 97034
Bellevue, WA 98009-9734
PSE.com

October 20, 2021

Andrew Deffobis
Interim Senior Planner
Community Planning & Economic Development
Thurston County
Andrew.Deffobis@co.thurston.wa.us

RE: Thurston County Shoreline Master Program Update

Dear Mr. Deffobis:

Puget Sound Energy (PSE) appreciates the opportunity to participate in Thurston County's Shoreline Master Program update and Planning Commission Public Hearing. PSE provides both electrical and natural gas service to Thurston County. PSE does have utility infrastructure within the shoreline jurisdictions that include linear electrical and natural gas facilities (both aerial and below ground), as well as service lines to homes, businesses and other water-dependent uses. I have reviewed the proposed updates to the Shoreline Code and would like to submit the attached comments for your consideration. Please feel free to contact me to discuss anything further.

Jessica Jackson

Jessica Jackson
Land Planner
425-457-5751
Jessica.jackson@pse.com

Thurston County SMP Draft Update

PSE Comments

Section 19.150.765 Structure

The term “structure” as defined is broad enough to include utility poles, even though there is a definition for utilities under 19.150.795. In parts of the SMP, there is a proposed 35 foot height restriction for structures, therefore clarification is needed that utility poles are exempted from this height limit or that utility poles are not included in the Structure definition. More detailed comments are outlined below.

Section 19.300.105 Critical Areas and Ecological Protection (D)

This policy seeks to reduce the amount of plastic debris entering water bodies, and states that permitted uses are encouraged to limit the use of plastics. Please note that the standard material used for many types of utility conduit is plastic. Also many of the most frequently used erosion control BMPs contain plastics. However, the use of plastics for these purposes would not add substantially to the amount of debris entering water bodies.

Section 19.300.145 (D) Transportation and Utilities

It is proposed that Policy SH-54 states that Transportation and utility projects *should*, instead of shall, incorporate public access. PSE supports this change since public access may not be compatible with utility corridors. In addition, utilities typically do not own the corridors in fee, so often do not have the right to authorize public access. PSE Suggests adding a qualifier to this section.

Suggestion -

“Transportation and utility projects should incorporate public access, where practicable and consistent with the utility’s underlying property right.”

19.400.100 Existing Development

The county is soliciting public comments specifically on the approach for identifying nonconforming structures, lots and uses. PSE has facilities that frequently fall into this category, based on the age and nature of our system. Essential public utilities that pre-date the Shoreline Management Act should be allowed to remain within Shoreline jurisdiction, since they either serve water-dependent uses, are linear facilities that have no option but to cross Shoreline areas, or have no practicable alternative. Facilities such as substations (or the equivalent for other utilities such as natural gas, water, etc.) should be allowed to perform necessary repairs, maintenance and upgrades without the need for discretionary approvals (e.g. Variance) when such repair, maintenance or upgrade minimizes expansion of the development in the Standard Buffer to the extent practicable.

19.400.100 (B) Existing Structures

In section 1.b it states that nonconforming structures may continue and may be remodeled, repaired or maintained in accordance with the Act. Based on the definition of “normal repair”, replacement of structures (if utility poles are included in the definition of structures) would be included.

Suggestion - Have this section refer to the defined term “normal repair” to clarify that replacement of non-conforming structures and utility infrastructure is allowed.

Suggestion - In section 1.c and 1.d, the height limitations pose a severe restriction on PSE’s ability to replace poles. Based on the stated height limitation of 35 feet, many of PSE’s distribution and all of the transmission pole replacements would be prohibited. The listed height is not achievable under current National Electrical Safety Code. PSE distribution poles carry power from bulk transmission lines to neighborhoods and homes at a voltage below 55 kV. The general operating pole height for a distribution pole is 45 feet. Pole heights can vary based upon site specific circumstances; however 35 feet is not a standard or generally feasible operating height for PSE’s distribution poles. Transmission poles carry bulk power and require taller clearances than distribution poles. Transmission pole heights generally range from 60 to 100 feet in height, but can be taller based upon specific circumstances. This section should include a statement excepting normal repair of utility poles.

19.400.120 (C) 2.b

This section covers alternatives for existing development and repeats the height limit of 35 feet. An allowance should be added for repair of existing utility systems (poles) that must exceed that height in order to achieve safe and adequate electrical clearance.

Table 19.400.140(A) and (B)

The Development Standards table (for bulk and dimensions) makes the distinction that the height limitation of 35 feet is “Building Height”. However elsewhere in the SMP (including 19.400.140(B) language is less precise, stating that the maximum allowable height of **structures** in shoreline jurisdiction is 35 feet above finished average grade. The term “structure” is defined in 19.150.765, and is broad enough to include utility poles. Clarification is needed that utility poles are excepted from this height limit. The exception could be added to the definition, but without a thorough review of the SMP, that could lead to unintended affects. Otherwise, exception language must be added anywhere the SMP refers to the 35 foot limit.

Suggestion - adding a new footnote to Table 19.400.140 (A) that excepts utility poles, right after the new exception added for bridges.

Section 19.400.120 Vegetation Conservation Buffers

Consider exemption for pruning trees underneath overhead powerlines.

Comment- Suggest the wording should be changed to:

“Trees and shrubs may only be pruned for safety to maintain clearance for utility lines. This type of pruning is exempt from any permit requirements. Topping of trees is prohibited except where absolutely necessary to avoid interference with existing utilities.”

19.400.120(3)(e): Topping of trees is prohibited, except where demonstrated necessary for safety.

Suggestion – Add language about topping of trees may be necessary to protect overhead powerlines:

“Topping of trees is prohibited, except where demonstrated necessary for public safety, such as protecting overhead utility lines.”

19.400.120 (D)(4): Standards for Hazard Tree Removal

Is there an opportunity to clarify or add to the definition of “Hazard Tree” relative to vegetation and overhead powerlines? Perhaps modify the section or add new subsection to clarify that vegetation being too close to overhead powerlines is a hazardous situation (which if not addressed, could harm persons or property).

Suggestion - Add language to encourage stable compatible plantings underneath overhead powerlines, using species that will mature at low enough heights so as to not create hazards:

“Utilities are encouraged to seek the County’s assistance in developing long term tree maintenance, removal and re-vegetation plans where overhead powerlines are located within or adjacent to shoreline areas, to avoid hazardous situations which could result from vegetation growing too close to the powerlines.”

19.400.145(B) Public Access

As written, section (B) appears to mandate utility projects provide public access (item 3 in particular). The exceptions provided in Section (F) should allow PSE to avoid the mandate to provide public access via item 1, 2, 3 or 4. It may be worthwhile noting the difficulties of providing public access for utility projects since utilities do not typically own the property their facilities are installed on. Also see comment above 19.300.145 (D) Transportation and Utilities.

Section 19.500 Permit Provisions, Review and Enforcement

19.500.75 Permit Types Definitions

PSE is supportive in the consideration of making SDPs either a Type I or Type II permit as deemed appropriate by County Staff.

19.500.100 Permit Types Definitions

PSE strongly supports the designation of SDPs that do not trigger SEPA as Type I approvals. Utilities commonly trigger SDPs that are categorically exempt and have very little impact to the environment or shoreline.

From: smoorehead@thurstoncd.com
To: [SMP](#)
Subject: Incoming SMP Comment
Date: Friday, October 22, 2021 9:28:16 PM

Your Name (Optional): Sarah Moorehead

Your email address: smoorehead@thurstoncd.com

Comment: BUFFER WIDTHS & USES

A site-specific management approach to conservation allows the ability to achieve multiple objectives simultaneously. Similar to the principles in Thurston County's Voluntary Stewardship Program, individualized, flexible and incentivized management plans that allow for dialogue with landowners/operators achieve more success in habitat restoration. Individual stewardship plans could be used for site-specific custom conservation in buffer lands.

We have for some time recognized conservation grazing as a practice to help restore habitat. (https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/?cid=nrcs144p2_027164) This is particularly true in areas of Oregon Spotted Frog (which have very different habitat requirements from salmonids). Customized management plans allow for targeting different needs to increase ESA listed species habitat.

Incorporating a blended approach of natives and non-native perennial production species (fruit and nut trees and shrubs) to buffers allows for an economic offset of lost production ground for agricultural producers and increases local food production.

Recommendation: Allow for flexible buffer widths, with established minimums. Develop site-specific management plans for agricultural lands with allowable uses that are relevant to the individual site conditions (such as flash grazing or agroforestry). Incentivize excellent stewardship - voluntary installation of bigger buffers receive compensation, tax benefits, etc.

ABANDONMENT PERIOD

The abandonment period in the SMP is particularly problematic. Agriculture is a preferred land use type to others (industrial, residential, commercial) in our critical areas. Encouraging this land use, particularly in larger acreages is ideal for continuing effective management of critical areas.

In addition, as Thurston County plans for its future in a changing climate, with an increasing population (and increased pressure on its natural resources), the luxury of planning with a single-issue focus is long gone. Integrated plans that achieve multiple benefits (increasing food security and access, preserving agricultural lands, strengthening the local economy, improving public health, restoring wildlife habitat, etc.) will not only empower the local community to steward their land wisely, but ensure a thriving community for generations to come.

The likelihood that an abandonment period would result in a positive impact appear miniscule in comparison to the potential negative impacts, such as: loss of farmland, encouraging parcel subdivision and development - thereby decreasing habitat, reducing local food security, and hurting local family-owned businesses.

Recommendation: Remove abandonment period entirely from SMP.

'NEW' AGRICULTURE

Meeting no net loss of ecological functions of the shorelines – might not require that new agriculture is subject to immediate buffer provisions. New agriculture should be encouraged to increase the amount of food grown locally (increasing security and reducing climate impacts) and maintain open space and habitat. Agricultural land uses remain the preferred land use type to industrial, commercial and even residential - particularly in critical habitat areas.

Recommendation: Codify 'new' agriculture under the same rules and regulations as existing agriculture. Do not increase regulations on 'new' or future agriculture through the SMP.

Time: October 23, 2021 at 4:28 am

IP Address: 73.11.233.156

Contact Form URL: <https://thurstoncomments.org/comment-on-the-proposed-shoreline-code-update/>

Sent by an unverified visitor to your site.

From: [KLS](#)
To: [Andrew Deffobis](#); [Karin Strelieff](#)
Subject: SMP Comments
Date: Friday, October 22, 2021 10:33:43 PM

Hi Andrew,

I really apologize for taking so long to review the SMP draft and share comments regarding the proposed update. Unfortunately time got away from me and I only realized that tonight is the deadline for comments (so of course now I am submitting via my personal email at home on Friday night. Apparently there's nothing like a pending deadline to mobilize me!) Again, apologies.

A few thoughts on the below comments:

- If you would like to discuss any of this in person or via a phone call, just let me know. Please feel welcome to call my Thurston CD cell phone at 360-972-4565.
- For document locations, I refer to the section and/or page numbers on the bottom of the document pages rather than to the pdf pages.
- **I will try to note comments in red. My observations tend to fall into these categories:**
 - **Clarification might be needed (This means I wasn't clear about something, but my confusion might be a result of the fact that I was speeding through this immense document on a Friday night and missed info. Or there might be a problem to consider with the wording)**
 - **Personal Comment as Karin Strelieff, Thurston County Resident**
 - **TCD Comment (from perspective of Thurston Conservation District shoreline specialist)**
 - **Correction: - if something needs to be changed or will be inaccurate/misleading**

Okay, here we go:

Definitions Section

p 13 / 19.150.400 Hard Surface: An impervious surface, a permeable pavement, or a vegetated roof

- **Clarification** - in my professional experience "hard surfaces" typically refer to impervious surfaces like roofs/pavement/asphalt etc. In contrast, permeable pavement or vegetated roofs are considered to be pervious or permeable surfaces - water can infiltrate through them. My point of reference is stormwater management. I would suggest checking this definition with stormwater experts in house to make sure you are defining it the way you want.
- **Clarification** - the words "shoreline armor" and the word "armoring" are used at various points in the document. You might want to include a definition of shoreline "armor" in relation to shoreline modification - either under the definition of "bulkhead" or as an interchangeable term or as a stand alone word/phrase needing definition (Shoreline armoring = see bulkhead definition) . Or maybe it's there and I just missed it.

P 38

F. Policy SH-12 Shoreline processes, both freshwater and marine, that should be protected to support the above functions include, but are not limited to the delivery, loss and movement of sediment etc....

- **TCD Comment** ***wish this language was not struck. Shoreline processes such as sediment deposition in the marine environment are critical. It seems important to reflect the importance of coastal processes for ecological function in the marine nearshore, and to try to preserve these processes to the greatest extent possible. I would encourage this topic somehow.

P 39

B. Policy SH-16 Shoreline landowners are encouraged to preserve and enhance native woody vegetation and native groundcovers to stabilize soils and provide habitat. When shoreline uses or modifications require a planting plan, maintaining native plant communities, replacing noxious weeds and avoiding installation of ornamental plants are preferred. *Unless approved by the Director or their designee, nonnative vegetation is prohibited within critical areas, their buffers, and associated setbacks.*

- **TCD Comment** *** While I understand and agree with the intent of the last line in italics, I have some concern about a blanket prohibition regarding the use of non-native species, especially in the face of climate change. There are scenarios where the use of nonnative species (but not invasive nonnative species) can in fact benefit habitat and might be advantageous to plant in setback areas - such as installing drought-tolerant plantings or enhancing pollinator habitat or other goals. Is it acceptable to offer potential flexibility: Use of nonnative veg within crit area, buffers, etc. must be part of an approved (appropriate type) plan; otherwise nonnative species are prohibited etc.*** I could argue this position both ways. Just wanted to share the idea.

P. 40, E

Policy SH-21.5 Promote the use of and participation in voluntary incentive programs to protect water quality, such as the [Thurston Conservation District County](#)-Shore Friendly program, Stream Team initiatives, Thurston County Environmental Health water quality programs, Thurston County Conservation Futures and Open Space Tax Programs, Transfer of Development Rights program, and **other stewardship** programs offered by Thurston Conservation District and others.

- **Correction** - needs to say "Thurston Conservation District Shore Friendly Program" - this is not a Thurston County Program. This is an important distinction to maintain the non-regulatory perspective and we don't want to create confusion. **Thanks for fixing this!**

P 40 ,G. Policy SH-21.7 Stormwater outfalls into the rivers, streams, lakes and marine environment should be eliminated and diverted into settling ponds to reduce organics, harmful chemicals and waste from entering these water bodies and degrading water quality and contributing to algae growth.

- **TCD Comment t/CORRECTION** *** *This is a really tough topic without a good solution. I absolutely agree with the intent to ensure that only clean water drains to shorelines, but the recommendation here is not a good one to use as a generality/standard solution; it is in fact dangerous in certain circumstances. This is a

very important topic to understand before making recommendations. Guiding landowners to create holding ponds or to infiltrate stormwater on marine shorelines or high bank river/creek shorelines is complicated and not a recommended practice because this action can compromise human safety. Infiltrating water near steep slopes or bluffs can saturate the slope/bank/bluff and trigger landslides. I have been to multiple properties where this happened, and it can be scary. Water is a major destabilizing factor. If this recommendation will be included, Thurston County needs to protect itself from liability by requiring engineering and/or geotechnical expertise prior to establishing any kind of infiltration pond/facility on a marine bluff, near a steep slope, or above a high-bank on a river. This action could otherwise cause a catastrophic slope failure.

p 42

F. Policy SH-30 Aquaculture is of statewide interest. Properly managed, it can result in long-term, over short-term, benefit and can protect the resources and ecology of the shoreline.

Aquaculture

is dependent on the use of the water area and, when consistent with the control of pollution and prevention of damage to the environment, is a preferred use of the water area.

- **Personal Comment** *** I disagree with unqualified description or designation of aquaculture as a "preferred use" based on current practices. In the context of impacts to beach substrate and the management of predators. I have observed commercial shellfish companies eradicate large numbers of native species such as sea stars that would normally inhabit the areas they are farming. There is not enough monitoring of predator deterrence at present when it relates to management of waterfowl, sea stars etc.(as opposed to simply requiring the use of materials that are helpful to deter predation). I understand the influence of aquaculture in Puget Sound and I appreciate the cultural and economic value of aquaculture, but we have to return to the question of no net loss and be certain that we have the science to ensure that those understudied populations aren't being adversely impacted by aquaculture practices for predation control. The language as it stands doesn't adequately place a burden on aquaculture producers to explain how they won't impact those native intertidal species.

p 55 E. Geologically Hazardous Areas

Channel migration zones shall be classified as landslide hazard areas, and may be either high geologic hazard or low geologic hazard depending on the site characteristics outlined in TCC

- **TCD Comment:** ?? Why are marine shorelines not also addressed in this section. A large percentage of our marine shorelines are inherently geologically unstable and landslides are common. This seems like an important oversight.

p 56 Buffer Widths recommendations (marine shorelines / lakes)

- **TCD Comment:** I would encourage preserving the larger of proposed buffer widths in the chart with the main goal of protecting human safety and addressing potential landslide hazard risks that are very much exacerbated by vegetation removal and development occurring too close to steep slopes/ bluffs adjacent to surface water. Narrower buffers result in development closer to "the edge.," Common land

management practices then adversely impact slope/shoreline stability and increase the likelihood of landowners requesting modification of shorelines to address the resulting impacts. It also results in unnecessary stress/fear on the part of homeowners experiencing erosion as a result of poor land management practices. This very difficult and expensive situation can be prevented by having people build farther from shorelines.

- The exception to this recommendation is the 250 foot buffer requirement on freshwater systems where agricultural land abuts a waterway. There needs to be some flexibility in buffer widths on active ag lands to ensure that we meet equally important Thurston County goals of preservation of working farms. Including language that allows for variable buffer widths based on implementation of farm plans or NRCS practices could help to achieve this flexibility and ensure we don't lose critical farmland. Unlike the earlier scenarios, on active farmland there isn't a human safety factor (as long as buildings aren't allowed nearby); flooding or river avulsion in these scenarios is a genuine frustration but it doesn't put people at risk the way development too close to a river/marine shoreline can.

p 60 b. Decks and Viewing Platforms. Decks and viewing platforms adjacent to residential structures may be permitted, but shall be limited to one hundred square feet in size, unless demonstrated that a larger structure will not result in a net loss of shoreline ecological function through submittal of a Shoreline Mitigation Plan (Section 19.700.140). The structure shall be no closer than 25 feet from the ordinary high water mark (OHMW). Viewing platforms shall not have roofs, except where otherwise permitted through the view blockage standards (Section 19.400.135) and be no higher than 3 feet above grade. Creosote and pentachlorophenol should not be utilized in construction materials for decks, viewing platforms or boardwalks. (Public Hearing Option: Consider allowing decks and viewing platforms larger than 100 square feet as default option, or closer than 25 feet, allowing it for public access, and whether this requires a shoreline variance.)

- **Clarification** - *** I think I am correct that this section is intended to address these features only next to residential structures. In that case, I recommend smaller and farther away as preferable, to limit impact.
- I wondered about scenarios such as Land Trust properties that allow public access to shorelines for salmon viewing or other educational purposes. Do they fall in this section or later in the Public Access section? Is there a need to clarify this? For non-residential scenarios it might be important to allow larger platforms or a closer location, to allow for the educational opportunity that would be available to a wide portion of the public, not just an individual family at a residence.

p 61

e. Water-Oriented Storage Structure. One water-oriented storage structure to house store boats and related equipment may be allowed within the buffer provided:

i. The structure is no closer than 25 feet from ordinary high water mark as determined by the Department;

etc

vii. Allowance of a storage structure within a buffer shall not justify the need for shoreline armoring to protect the structure.

- **TCD Comment:** It seems there is a risk that this still might inadvertently give property

owners the idea to try to install shoreline armor to protect this appurtenance building in the future. It would be helpful to include clear language in this section that any structures built under the guidelines of this section would not be allowed *at any point* to install new shoreline armor. Without that clarification, this language still offers a pathway.

p61 3. Standards for View Thinning

a. View thinning activities shall be the minimum necessary, and limited to 30% of the total buffer length . . .

- **TCD Comment:** needs earlier definition /clarification that "view thinning" refers to tree removal as opposed to limbing up/ windowing /other view creation practices.
- The percentages suggested here are quite large and would have a serious impact on the riparian area's function. Removal of 30% of shoreline trees is not necessary to create extraordinary views of the water; no more than 10% removal without a detailed plan seems far more in line with maintaining riparian function and preserving the additional stormwater management and stabilization benefits provided by trees on shorelines.
- I would also specifically stipulate that removal work needs to be done by certified arborist, and encourage a combo of best practices for view creation: limited tree removal, limbing up/ branch removal to create or maintain view corridors

p63

19.400.125 Water Quality and Quantity

- **TCD Comment:** Here I return to the issue of water in relation to slope/shoreline stability. It is critical to consider the risk of recommending installing infiltration facilities above steep slopes/bluffs. As mentioned earlier, this recommendation can inadvertently result in landslides if facilities are not designed with appropriate hydrogeological experts involved. In general, I really don't recommend infiltration of water above bluffs for this reason. Needs additional review/work here. Standard recommendations for LID/SW BMPs that apply inland do not always work on shorelines and are potentially even dangerous. Again, I feel this could set up Thurston County for liability without putting some kind of framework around the appropriate design of these facilities to ensure they won't destabilize the shoreline.

p 69

19.400.145 Public Access -L.

- **Personal Comment** - it would be nice to include limitation of removal of native vegetation for lawn areas will be the minimum amount possible
- (maybe this is the section where a land trust wanting to provide public access via walking trails would go for guidance regarding trail/boardwalk regs?)

p72

19.400.150 Flood Hazard Reduction Measures

- **TCD Comment** - it says it applies to all environmental designations. However, mainly the language seems to refer to river/stream-related flooding. Read with an eye towards implications for marine shorelines, for example does 3.1 create a loophole

for bulkhead/armor installation?

p78-79

c. Construction of the normal protective bulkhead common to single-family residences.

A "normal protective" bulkhead includes those structural and nonstructural developments installed at or near, and parallel to, the OHWM for the sole purpose of protecting an existing single-family residence and appurtenant structures from loss or damage by erosion;

- **Personal Comment** - I do not understand how new bulkheads remain exempt from Substantial Development permits. It is also very strange that a stairway costing over \$7047 would trigger SDP and a \$100K bulkhead won't. Unfortunately this doesn't help Thurston County make true progress in relation to ensuring no net loss of shoreline function.
- In the charts later shoreline stabilization actions do seem to require SDP. CONFUSING unless bulkheads are not considered shoreline stabilization? I suspect I am getting tired at this point and missed something. Apologies
- **TCD Comment** Also, do you want to include the word "bulkhead" in your chart since that is in the definitions at start (as opposed to shore armor or shoreline stabilization)?
- **TCD Comment** g- installation of a septic system between house and water should no longer be permissible unless there is virtually no other feasible option; this can eventually trigger a BH installation to protect the drainfield/tank/water quality etc. Is there a way to require septic to be installed upland of the house unless additional reports prove it infeasible. Then I question too why we would develop a site like that but I know there are limits to regs.

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F. Developments Not Required to Obtain Shoreline Permits or Local Reviews

- **TCD Comment** F.6 - landscaping retaining walls included here could be "interpreted" by creative people to install bulkhead-like structures.

114 Forest practices/timber harvest

- **TCD Comment** -concern that SMP doesn't review harvests other than conversions - there is a serious stormwater and down slope geologic impact to consider relative to human health/safety. DNR-reviewed harvests can substantially impact shoreline conditions waterward of the harvest area, including changing stormwater drainage patterns and slope stability compromises as a result of increased saturation due to stormwater runoff. Seems it would be in the interest of public safety to include some provision for a permit to be submitted for review by TC prior to a DNR permitted harvest, to allow TC to consider potential SW impacts to downslope properties and shoreline stability.
- If #6. refers to the issue of someone harvesting under DNR without applying for a conversion permit through TC, then deciding to convert for development within a short timeframe, 6 years is not enough

p116

- **Personal Comment** industrial dev- prohibit in all 3 SEDs under consideration: Shoreline res, Urban Conservancy, and Rural Conserv

p131 C App requirements for Shoreline stabilization

- **TCD Comment** Additional information required section - does not clearly indicate level of coastal engineering/geotech engineering expertise required for report - only refers to Geotechnical report. In K indicates an engineer must design it but would be helpful to include this info above in relation to the alternatives discussion too

p135 -**TCD Comment** -to ensure no net loss, replacement structures SHOULD also require a geotech report justifying the need and why soft shore alts can't be used

p160 MITIGATION STANDARDS SECTION -

- **TCD Comment** Again, THIS IS REALLY A CONCERN & COULD SET COUNTY UP FOR LIABILITY/HUMAN HEALTH/SAFETY RISKS
- **TCD Comment** Rain Garden option should not be included on a shoreline unless it will be designed with geotechnical/ stormwater engineering review first, due to high risk of destabilizing bluff/bank as a result of concentrated water infiltration *** SERIOUS SAFETY ISSUE

p161 B3 Shoreline armoring replacement

- **TCD Comment** **Unclear if this line is mandating use of soft/hybrid alternatives for 50% of replacement? I like this concept but in practice soft shore stabilization is extremely tricky and not feasible in many (I would argue the majority) of cases, based on current design/technology available to do so effectively. Perhaps TC could include language that permit applicant has to explore the option and submit report to prove if it is infeasible to avoid? That's a cost burden however. I do think exploring requirements for moving replacement bulkheads landward to replace any armor that is projecting out onto the beach with fill, beyond normal location of adjacent shorelines, is worth considering.

p124 and 162

- **TCD Comment** recommend not to strike any requirements for grating on overwater structures on any type of waterbody. Grating is understood to mitigate the impact and provides better light; it seems a reasonable requirement to support no net loss goals.

p158 Restoration and Protection

- **TCD Comment** - mechanisms described in the second paragraph will rarely work at the residential parcel scale for restoration projects, I am finding. We need to continue to come up with other creative options like extending Open Space classification to restored parcels that might not otherwise meet the size/other Open Space requirements, that could be a really helpful protective measure.

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D. Programmatic Restoration and Protection Actions

- **TCD Comment - revisions needed here in the sections related to Thurston Conservation District.**
- **TCD Comment 1. Education and Incentives-** Thurston CD education covers: marine, wetland, freshwater, and overall watershed education; forest land, agricultural land, and natural resource stewardship guidance, workshops, technical support for land management, yard care, farm plans, restoration, forest management etc.
- **TCD Comment 3. Infrastructure - rain garden program-** why does this specific call out TCD rain garden program as problematic? Please remove this as it seems out of context and inappropriate. The language ensuring appropriate engineering review should apply to all organizations, including Thurston CD.

p173 Chart

- **TCD Comment** Thurston Conservation District section *updates*
- **Mission** - The mission of Thurston Conservation District is to educate and assist the citizens of Thurston County in the management of natural resources for the benefit of present and future generations, inspiring voluntary, incentive-based conservation practices.
- **Scope** -provide free technical assistance and professional expertise regarding natural resource management, planning & design services, funding assistance

Programs/services include:

Voluntary Stewardship Program (VSP)- land stewardship, esp ag. lands

Shore Friendly Thurston -Marine shoreline Stewardship

Conservation Reserve Enhancement Program (CREP) - riparian buffer incentive and implementation program

Agricultural assistance including farm plans, implementation of ag BMPs and other technical assistance

Technical support and design of restoration, invasive control, habitat enhancement and stewardship projects

Stormwater management/Green stormwater infrastructure project development

Forest stewardship and planning services

REMOVE LEAD ENTITY FOR SALMON RECOVERY/3 yr WORK PLAN- now at Thurston Regional Planning Council

Role in Future Efforts

Natural resources management -planning, funding, technical assistance

-Farmland conservation and agricultural stewardship, BMPs, planning support

-habitat restoration design and implementation of projects,

- marine shoreline management, bulkhead removal and restoration/ Shore Friendly Thurston

- prairie habitat stewardship

Examples

large and small scale restoration of river/creek habitats, marine shorelines, wetlands, riparian forest, prairies

p177 POTENTIAL RESTORATION PARTNERS

Add Thurston CD to the list here, as we do a LOT of restoration projects -(TCD Is basically half ag /half restoration services)

- repeat mission

The mission of Thurston Conservation District is to educate and assist the citizens of Thurston County in the management of natural resources for the benefit of present and future generations, inspiring voluntary, incentive-based conservation practices.

repeat restoration focuses

-habitat restoration design and implementation of projects,

- marine shoreline management, bulkhead removal and restoration/ Shore Friendly Thurston

- prairie habitat stewardship

Examples

Freshwater, Wetland, Marine Shoreline project design and implementation,

planting restoration projects- design and implementation

shoreline restoration; armor/bulkhead removal; in-stream habitat enhancement; floodplain reconnection; design and planning

Prairie restoration; endangered species habitat management

THANK YOU Andy! I appreciate all the hard work you and your team have put into the SMP update process.

Karin